US Army Corps
of Engineers®
Albuquerque District

Feasibility Report and Environmental Assessment

27th Street Bridge
Section 14 Emergency Streambank Protection
Glenwood Springs, Garfield County, Colorado

Prepared by
U.S. Army Corps of Engineers
Albuquerque District

April 2008

FINDING OF NO SIGNIFICANT IMPACT

27th Street Bridge
Section 14 Emergency Streambank Protection
Glenwood Springs, Garfield County, Colorado

The Proposed Action would protect the existing 27th Street Bridge in Glenwood Springs, Garfield County, Colorado by protecting the existing bridge piers using placed rip-rap boulders. The project is being proposed under the authority of Section 14 of the 1946 Flood Control Act, as amended. This authority allows construction of emergency streambank protection for public facilities. The approximate cost of the project is $190,330.

Section 404 of the Clean Water Act, (CWA; 33 U.S.C. 1251 *et seq.*) as amended, requires analysis of the EPA's 404 (b)(1) Guidelines if the Corps proposes to discharge fill material into a water or wetlands of the United States . The City of Glenwood Springs obtained a 404 permit from the Corps' Sacramento District Regulatory Branch (Appendix A1). This Nationwide permit is expires in April 2008. At the time that it expires, the City will apply for a new Nationwide permit. All stipulations in the permit would be adhered to during construction.

Section 401 of the CWA, (CWA: 33 U.S.C. 1251 *et seq.*) as amended, requires that a Water Quality Certification Permit be obtained for anticipated discharges associated with construction activities or other disturbance within waterways. The State of Colorado Department of Public Health and Environment, Water Quality Control Division, has statutory authority over issuance of the above-mentioned permit. By Colorado statute, authority to proceed under a Nationwide Permit for Section 404 of the CWA automatically permits the applicant under Section 401.

The Corps and the local sponsor, in close coordination with any and all contractors, would be responsible for meeting the general and special conditions of the above permits and would use best management practices as described in Section 3.1 of the Environmental Assessment, and avoidance by design, to prevent or minimize effects to water resources during and after construction. Corps Contracting Officers, or their representatives, would be required to monitor and inspect any contractor's compliance with project specifications regarding the conditions set forth under the CWA permits and best management practices employed to conform to those permit conditions.

The planned action would result in only minor and temporary adverse impacts on soils, water quality, air quality and noise levels, aesthetics, vegetation, flood plains, fish and wildlife, and recreational resources during construction. The long-term benefits of the proposed project would outweigh these short-term adverse impacts. The following elements have been analyzed and would not be significantly affected by the planned action: socioeconomic environment, hydrology and hydraulics, wetlands, waters of the United States, Indian Trust Assets, prime and unique farmland, geology, environmental justice, HTRW, land use and cultural resources. Construction is proposed for the late summer of 2008 through early spring of 2009.

The planned action has been fully coordinated with Federal, State, tribal, and local governments with jurisdiction over the ecological, cultural, and hydrological resources of the project area. Based upon these factors and others discussed in detail in the Environmental Assessment, the planned action would not have a significant effect on the human environment. Therefore, an Environmental Impact Statement will not be prepared for the 27th Street Bridge Section 14 Emergency Streambank Protection, Glenwood Springs, Garfield County, Colorado.

21 APR 08
Date

B.A. Estok
Lieutenant Colonel, U.S. Army
District Commander

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1. Introduction

1.1 Project Location and Background

The 27th Street Bridge (also called Sunlight Bridge) is in the City of Glenwood Springs, Colorado, on the Roaring Fork River (River) (Figure 1). In September 2001, the City of Glenwood Springs (City) requested assistance of the Corps under authority of Section 14-Emergency Streambank Protection of the 1946 Flood Control Act, as amended. The bridge piers were being undercut, which threatens the stability of the bridge (see Figure 2). The bridge was originally constructed in 1969. The deck of the bridge was also in need of repair, so in November 2001, the City replaced the deck of the bridge with a heavier new deck. This added weight has made it a critical situation to abate the potential of future channel scour and repair the piers.

1.2 Purpose and Need

The purpose of the project is to stabilize the existing bridge piers in order to protect public property and use of this facility. At the time assistance was requested by the City, the Piers of the 27th Street Bridge were believed to be scoured and exposed. In October 2007, a visual assessment of the bridge footings was conducted by personnel from the City of Glenwood Springs. Based on the findings of this assessment, which were submitted to the U.S. Army Corps of Engineers for review, it appears that the extent of scour is less than previously believed. Nevertheless, the bridge is in imminent threat of damage or failure by natural erosion and the piers of the bridge need to be stabilized. Construction is proposed to take place in the summer and fall of 2008.

1.3 Regulatory Compliance

This combined Feasibility Report and Environmental Assessment (FR/EA) was prepared by the U.S. Army Corps of Engineers (Corps), Albuquerque District in compliance with all applicable Federal statutes, regulations, and Executive Orders, including the following:

- Clean Air Act of 1972, as amended (42 U.S.C. 7401 *et seq*.)
- Clean Water Act of 1972, as amended (33 U.S.C. 1251 *et seq*.)
- Endangered Species Act of 1973, (ESA) as amended (16 U.S.C. 1531 *et seq*.)
- National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 4321 *et seq*.)
- Procedures for Implementing NEPA (33 CFR 230; ER 200-2-2)
- Regulations for Implementing the Procedural Provision of NEPA (40 CFR 1500 *et seq.*)
- Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (Executive Order 12898)

- Flood plain Management (Executive Order 11988)
- Protection of Wetlands (Executive Order 11990)
- National Historic Preservation Act, as amended (16 U.S.C. 470a *et seq*)
- Protection of Historic and Cultural Properties (36 CFR 800 *et seq*)
- Protection and Enhancement of the Cultural Environment (Executive Order 11593)
- Native American Graves and Repatriation Act of 1990 (25 U.S.C. 3001 *et seq*)
- Archeological Resources Protection Act of 1979 (16 U.S.C. 470)
- Environmental Justice (Executive Order 12898)
- Federal Weed Act of 1974 (Public Law 93-269; U.S.C. 2801)
- Migratory Bird Treaty Act of 1918

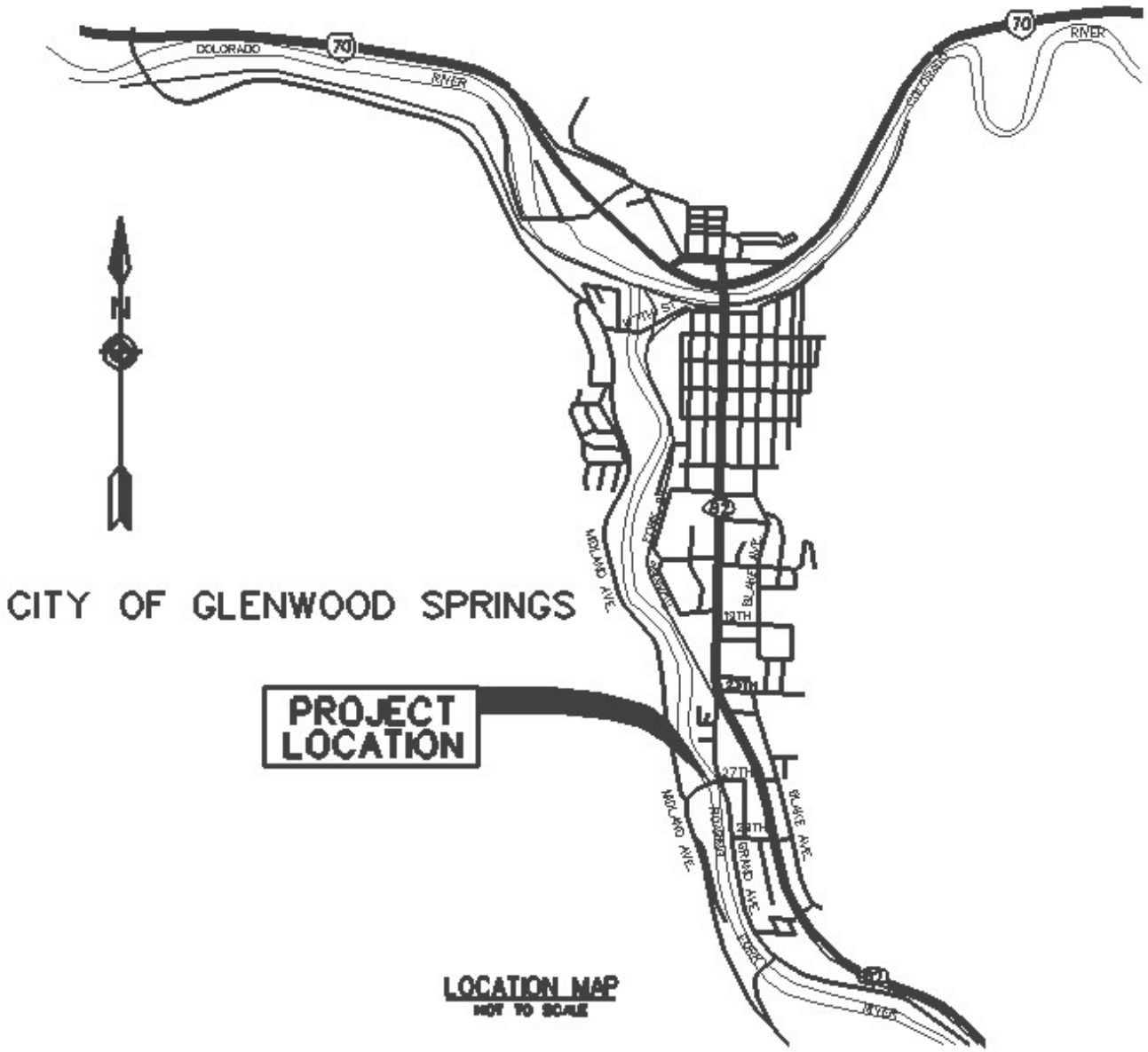

Figure 1. Project location map

Figure 2. View of bridge piers

This FR/EA also reflects compliance with all applicable State of Colorado and local regulations, statutes, policies, and standards for conserving the environment and environmental resources such as water and air quality, endangered plants and animals, and cultural resources.

2.0 Alternatives and Proposed Action

2.1 Proposed Action

The Proposed Action would protect existing bridge piers using placed rip-rap boulders. The proposed size of boulders would be in the range of two to four feet in diameter. See Figure 3 for a Preliminary Drawing. The boulders would be placed with minimum-to-no dewatering effort. Appropriate wet work equipment would be utilized by the contractor in excavation operations. Boulders would be placed in an excavated void immediately adjacent to the bridge piers. The excavation/placement operations would be conducted next to the pier, on each side of the Roaring Fork River at the 27th Street Bridge. The proposed construction sequence would be to excavate/dredge material at one pier at a time. The excavated material would be dragged to the side. Selected equipment would place prepositioned stone material into the just excavated opening in the River. Approximately 250 yds.^{3} of native rock material would be used as rip-rap on both sides of the River. Once the boulders are placed, the dragged/excavated material from the River would be replaced to fill the voids around the boulders. This would be accomplished by transporting rock (about 10 yds.^{3}) to the bridge above the site. The rock would then be dumped over the bridge to the downstream overbank. The rock would be bladed into the voids from the upstream to the downstream ends. Native material is available for the project. Material will need to be placed during low flow and potentially replaced after high flow events. The

construction duration is proposed to be approximately 6-8 weeks. The approximate cost of construction is $190,330 (see table below)

Participant	Federal Agency	Local Sponsor	Total
Feasibility[1]	65% $113,000	35% $7,000	$120,000
Plans and Specifications [2]	65% $19,825	35% $10,675	$30,500
Lands [3]	0% $0	100% $0	$0
Construction	65% $101,940	35% $54,890	$156,830
Construction Management	65% $21,775	35% $11,725	$33,500
Total	$256,540	$84,290	$340,830
Annual OMRR&R [4]	$0	$2,000	$2,000

[1] First $100,000 Federal
[2] Design would include an HTRW survey and debris classification prior to construction.
[3] Includes lands, easements, rights of way, relocations, and disposal/borrow sites (LERRD).
[4] Annual OMRR&R costs for visual inspections and rock replacement.

This alternative was chosen because of the ease of construction and lower impacts and costs. This alternative would be the easiest to implement with the least impact to the stream cross-section. It would have the least amount of impact on recreational use of the river. Overall it is the most effective alternative and least expensive. The total costs of this least cost alternative are clearly less than the cost of relocating and replacing the bridge.

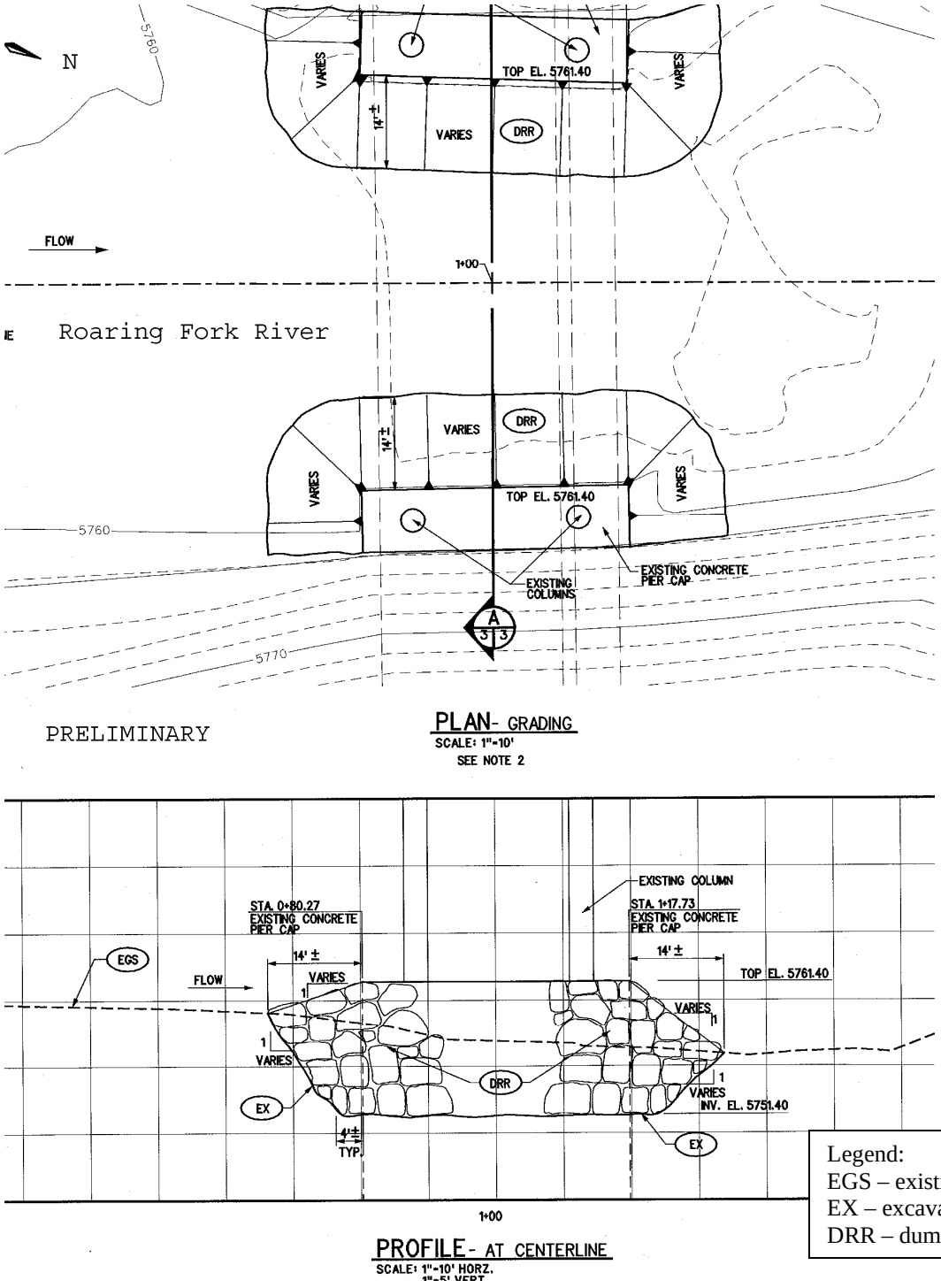

Figure 3. Footprint of Preliminary Construction Plan
27th Street Bridge, Emergency Streambank Protection Project
Glenwood Springs, Garfield County, Colorado

2.2 Future Without Project (No-Action Alternative)

Without protection to the bridge piers and streambank, the 27th Street Bridge would be in jeopardy of failing and would not be able to be used by the public. This is one of the few crossings of the Roaring Fork River between the Colorado River and the south end of Glenwood Springs. Continued erosion under the bridge piers may also cause material, such as sediment and concrete from the piers, to enter the stream system, trigger the banks to erode, and cause potential negative impacts to the River and its ecosystem. If the bridge were to fail it would negatively affect soils, hydrology, water quality, aesthetics, flood plains, wildlife, land use, recreational resources, human health and safety, and socioeconomic factors.

2.3 Alternatives Considered

The following alternatives were considered but found to be more costly and would impart a greater amount of impact to the River system.

- Wire-enclosed rip-rap around and between piers – This alternative would utilize a smaller diameter stone riprap and use rock-filled, wire-wrapped gabion baskets to contain the loose rock. Negative impacts of this method include difficult construction in terms of river diversions and dewatering as well as an adverse effect to recreational uses of the river. This alternative would also have a negative effect to fish species including federally listed fish species. Therefore, it was deemed both too costly and has negative effects to listed species.
- Downstream grade control structure – This alternative would reduce the scour under the bridge piers by 'flattening' the riverbed in the area of the bridge. A small amount of loose riprap would still be needed around the bridge piers. This option was dismissed due to high costs and construction difficulty. This option would also have potential negative effects on listed species and the costs were above what the project authority would allow.
- W-shape weir configuration – This alternative accomplishes the same 'flattening' of the riverbed as described in the alternative above and is also very costly. Again, the costs were above what the project authority would allow.

Therefore, these alternatives were considered but rejected based on the reasoning listed above.

3.0 Existing Environment and Foreseeable Effects

3.1 Physiography, Geology, Soils

The 27th Street Bridge crosses the Roaring Fork River approximately 1.7 miles upstream (south) of its convergence with the Colorado River. Flowing from south to north, the Roaring Fork River is within the Upper Colorado River Basin, approximately at the boundary of the Colorado Plateau and the Southern Rocky Mountains, in what is termed the Tavaputs Plateau (sometimes called the Roan Plateau) (Reed and Metcalf, 1999). Area elevations range from 5,700 feet in the valley bottom to over 11,000 feet in the nearby mountains (IBAERT, 2002). The area is mainly Cenozoic era sedimentary formations. Most of these formations are of Tertiary age and are composed of shale, siltstone, marlstone, claystone, mudstone, sandstone and conglomerate (Reed and Metcalf, 1999).

General soil classes in this are 'warm, intermittently dry, and dark-surface soils' (Reed and Metcalf, 1999). According to the Soil Survey of the Rifle Area, Colorado (Harman and Murray, 1985), general soil classification for the Roaring Fork River are Jerry-Lamphier-Cochetop on the west side of the River, Arvada-Torrifluvents-Heldt in the River, and Morval-Villa Grove on the east side of the River. Soil associations in the project area are classified as Ascalon-Pena complex on the west side of the River and Atencio-Azeltine complex on the east side of the River.

Jerry-Lamphier-Cochetop soils are deep, well drained, and found on moderately sloping to steep soils on mountains and fans. This general soil type as well as the Ascalon-Pena complex is found on the west side of the River at the project area. Jerry soils are on mountainsides and probably found further up the watershed to the west of the project area. The Ascalon-Pena complex has 6-25% slopes and occurs on the steep bank on the west side of the river at the project area. They are found on sides of valleys and alluvial fans. The Ascalon soil is deep and well drained. Effective rooting depth in this soil is 60 inches. Surface runoff is medium and the erosion hazard is moderate. The Pena soil is well drained. Effective rooting depth and erosion hazard is the same as for Ascalon. Native vegetation associated with the Ascalon-Pena complex is mainly needle-and-thread, wheatgrasses, mountain mahogany and sagebrush. Pubescent wheatgrass and western wheatgrass are suitable for seeding in this type of soil.

The Roaring Fork River channel is comprised mainly of the Arvada-Torrifluvents-Heldt complex, which is deep, well drained to somewhat poorly drained soil that is nearly level to gently sloping soils on benches, terraces, alluvial fans, and flood plains. Both Arvada and Heldt soils are found on alluvial fans. Torrifluvent soils are nearly level soils on the flood plains adjacent to the Colorado and Roaring Fork Rivers. The surface layer ranges from loamy sand and fine sandy loam to silty loam and clay loam. Underlying layers are generally sandy loam or loam stratified with sand, gravel, and cobbles. Native vegetation associated with this soil complex is mainly cottonwood, willow, tamarisk and water-tolerant grasses, sedges and rushes.

On the east bank above the River, Morval-Villa Grove complex soils exist. These soils are deep, well drained, and occur on moderately sloping to moderately steep soils on mesa, mountainsides

and alluvial fans. This general soil type as well as the Atencio-Azeltine complex occurs on the terrace of the east side of the River. The Atencio-Azeltine complex has 1-3% slopes. Permeability of Zaeltine soil is moderately rapid, and water capacity is very low. Surface runoff is slow and erosion hazard is slight. Suitable seeding for this type of soil includes crested wheatgrass, western wheatgrass, and Russian wildrye.

Minor impacts to soils by the proposed project implementation would be disturbance to the southwest bank for access to the river channel. A maintenance road exists but access from the maintenance road to the river-bed would need to occur and would disturb soil and vegetation minimally in that area. This disturbance would be short-term and during construction only. Best management practices (BMPs) would be implemented during construction. Potential BMPs are listed in Table 1 below. The area would be reseeded with native vegetation once the construction is complete.

Table 1. Best Management Practices (BMPs) to be implemented during construction
1. Daily inspection of vehicles and equipment to ensure that leaks or discharges of lubricants, hydraulic fluids or fuels does not occur. All fuels, lubricants, hydraulic fluids and other petrochemicals, would be stored and dispensed above the 100 year flood plain, and away from rivers, arroyos, or their banks. Any soil that is contaminated would be removed and tested for proper disposal. Equipment use in any rivers, arroyos, and washes would be kept at a minimum. If possible, existing maintenance yards or areas would be used to store and service construction equipment.
2. Sediment catchments would be constructed to the fullest extent possible, to catch and filter runoff from project construction and staging areas to prevent sediment-laden runoff from entering water courses.
3. Work in the vicinity of water resources would be performed during low/no flow periods and if necessary, a berm would be installed in the arroyo/wash(s) to provide a water-free work area. All borrow materials shall be provided from a commercial source. If any other fill materials are used, they would also be free of contaminants and would come from an approved quarry. Silt curtains and stilling basins shall be used to the fullest extent possible to minimize and control water turbidity.
4. Riprap and other bank stabilization material, including temporary and permanent structures placed in any water course, would be free of fines and any other contaminants including chemicals.
5. All topsoil removed during construction would be utilized as the uppermost layer of fill material whenever possible. All disturbed land surfaces would be recontoured as necessary to conform to the natural landscape and contour.
6. Damage to trees and shrubs would be avoided to the fullest extent possible. Revegetation of all disturbed land surface areas by the proposed project would include mulching and reseeding with suitable native plants (grasses and bushes), and a seed mixture and reclamation plan would be agreed to with the local sponsor to assist in soil stabilization and reduce soil erosion. Only uncontaminated soil or alluvium would be used for revegetation backfills.
7. Existing roads and rights-of-way would be utilized whenever possible and would

provide access to the project area. Any stockpile/staging area(s) would be established above the 100-year flood plain. Parking would be limited to the construction corridor and all off-road driving would be kept to a minimum.
8. All temporary structures, non-hazardous wastes, and/or excess materials would be removed from the project area upon completion of the project and be reused/recycled, if practicable, or disposed of at an approved landfill. Hazardous materials/wastes, if used/generated during project construction, are subject to all local, State, and Federal regulations. If any hazardous wastes are generated by the contractor, then the contractor is responsible for removing and paying for all waste handling requirements.
9. All efforts will be made by the contractor to avoid holes in the ground or other areas that look like they may be homes to wildlife.

3.2 Climate

The climate in the Roaring Fork River basin can be characterized as semiarid. Pronounced climate variations can occur during heavy winter storms and precipitation events. Average temperatures range from 30-40^{0}F in the winter to 80-90^{0}F in the summer. Average annual precipitation in the valley is 15-17 inches. Snowpack begins to accumulate in late October and snowmelt begins in late April and continues until July. No impacts to climate would occur from the project.

3.3 Hydrology

The headwaters of the Roaring Fork River are at approximately 12,000 feet in elevation about 30 miles south of Aspen, Colorado. It flows 50 miles to Glenwood Springs down to an elevation of 5,700 feet. The Roaring Fork River basin drains approximately 1,460 square miles (Gingery Associates, 1977). This includes contributions from tributaries of the Fryingpan and Crystal Rivers. All of these rivers come together at the Roaring Fork upstream of the project area and flow into the Colorado River and drain considerable portions of the Southern Rocky Mountain province in western Colorado.

Flood flows described in the Flood Plain Information Report (Gingery Associates, 1977) are described as follows: "As flood flows increase, masses of debris may break loose and cause a wall of water and debris to surge downstream until another obstruction is encountered. In some instances, debris may collect to the point where structural capability is exceeded and a bridge is destroyed or abutments and approaches eroded and roadbeds and railroad beds damaged."

Major recorded floods on the Roaring Fork River are snowmelt derived and generally occurred in late May or June. The flood of 1884 is considered to be the most severe flood recorded. The U.S.G.S. Gage Station 09085000 recorded flood peaks during the period 1906 to 2006. The gage recorded a peak discharge of 19,000 cubic feet per second (cfs) on July 1, 1957, due to rainfall coinciding with high snowmelt. Other recorded floods occurred in June 1917, June 1918, and June 1921, measuring 11,600 cfs, 17,600 cfs, and 17,600 cfs, respectively. One of the highest flows recorded since that time was 8,280 cfs on June 15, 1973. A number of events have occurred since then. The flood events are shown on Figure 4 below (USGS, 2003).

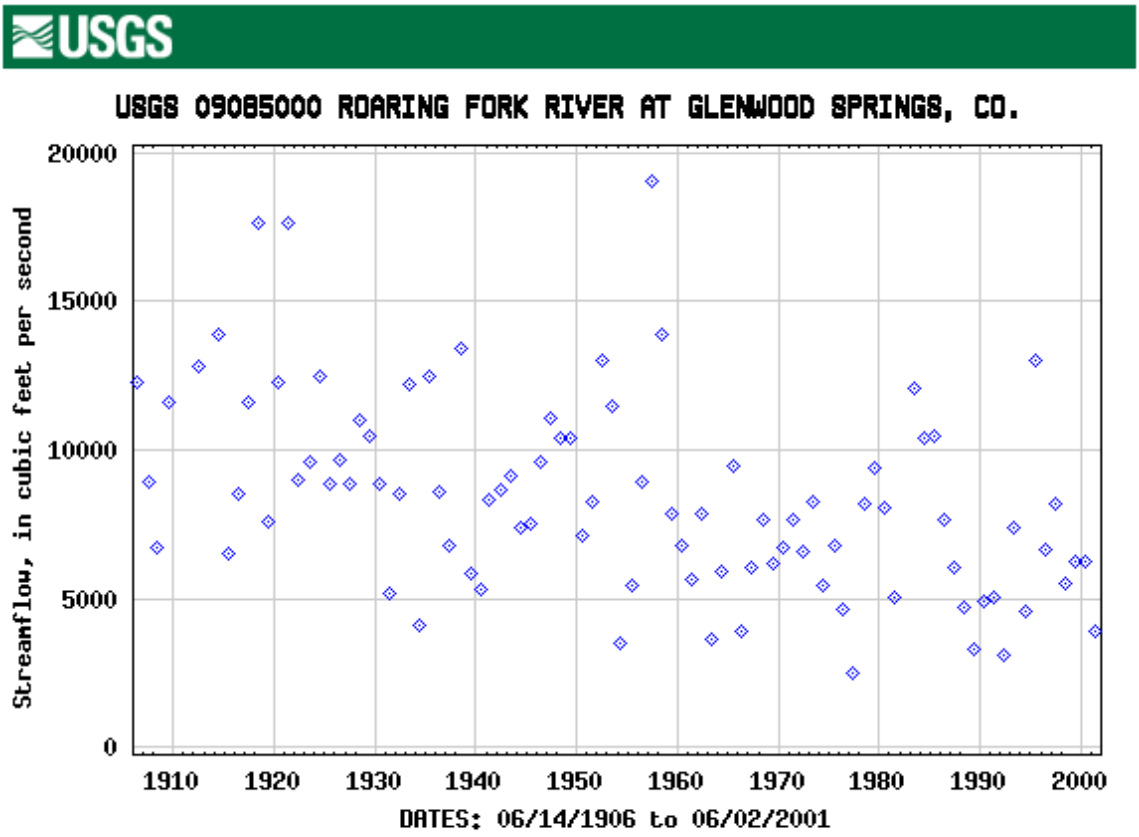

Figure 4. USGS Gage #09085000 Roaring Fork River Peak Flows at Glenwood Springs, CO: 1910-2000

Construction is proposed to take place in Summer 2008 through Spring 2009 before major snowmelt occurs. Average mean streamflow during February is 403 cfs and is 447 cfs in March (1906-2002). In April, mean flows begin to increase to an average mean of 849 cfs and by May up to 2,755 cfs. See Figure 5 for a graphic display of monthly streamflow February-May, 1906-2002. A graphic display of July to September would be the opposite of Figure 5 in that flows are decreasing from an average mean streamflow of 2,478 cfs in July, 1,012 cfs in August and down to 748 cfs in September. It is planned to have construction complete by mid-April 2009 before flows begin to increase to a great degree or beginning in September after major summer flows have subsided.

A minimum to no dewatering effort would occur. If diversion is warranted, then flows would be diverted to the bank opposite the pier and bank on which work is being performed. The time frame for work is fairly short and therefore, only minimal short-term effects on hydrology in that specific area would occur. The disturbance would occur during project construction only and

would not have effects upstream or downstream. Therefore, the Proposed Action alternative would not have a significant effect on hydrology.

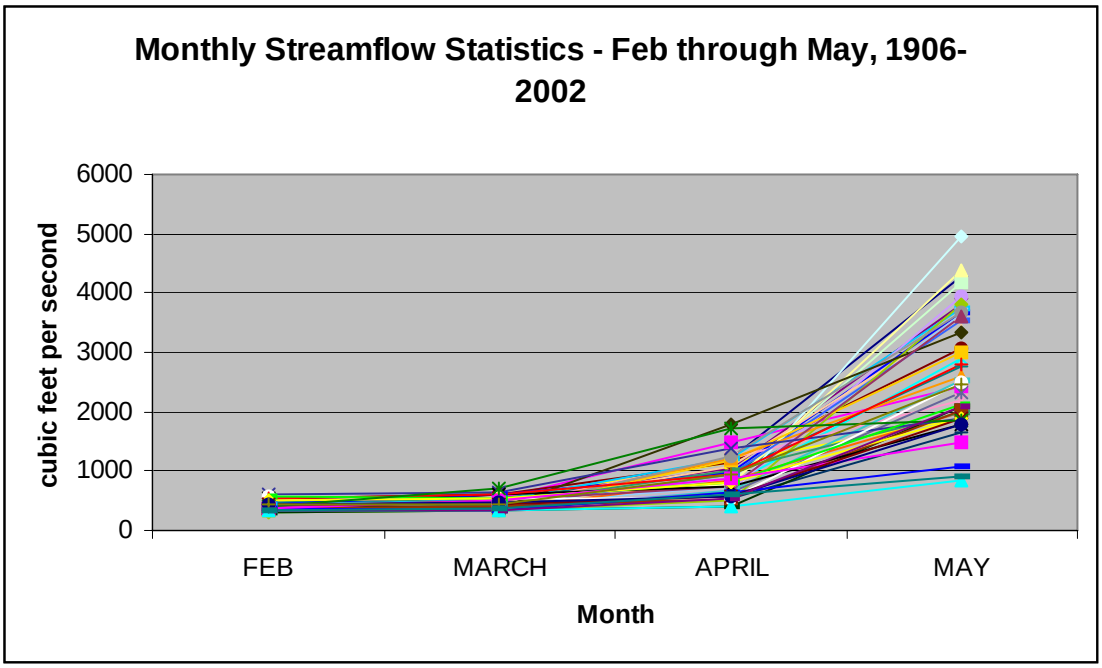

Figure 5. USGS Gage # 09085000 Roaring Fork River Monthly Streamflow at Glenwood Springs, CO: February-May, 1906-2002

3.4 Water Quality

The Roaring Fork River is classified by the State Water Quality Control Commission as an Aquatic Life Coldwater – Class 1, Recreation, Class 1, water supply and agriculture River (Hempel and Crandall, 2001). The water quality of the Upper Colorado River Basin has been reported as some of the best in the State. Current water quality issues associated with increased development include wastewater treatment discharges, storm water runoff, increased erosion and sediment loading (Hempel and Crandall, 2001). State standards for water quality have been designated for physical and biological components such as dissolved oxygen, inorganic nutrients and metals (CDPHE, 1999).

The Proposed Action alternative would have short-term minimal effects on water quality at the location of the 27th Street Bridge and downstream to the Colorado River. These effects would be due to construction in the River and diverting half of the River. Some sediment from the construction would enter the River. These effects would be very short-lived and would dissipate once the project is complete. Therefore, water quality would be affected only for a very short period. The Proposed Action alternative would have no significant affect on water quality.

3.5 Air Quality and Noise

Glenwood Springs is in Garfield County, which is in the West Slope Region for regional air quality perspective per the Colorado Air Quality Control Commission. The Western Slope Region is comprised of counties lying west of the Continental Divide. Main sources of air pollution in this region are motor vehicles, woodburning and street sand dust (CDPHE, 2002). Pollutants monitored and detected in this region are for counties other than Garfield with Grand Junction in Mesa County being the closest. Grand Junction had high levels of carbon monoxide and PM2.5 in 2001-2002. Air quality in the project area is generally good because of its rural setting.

Use of heavy equipment and ground disturbance would cause some dust to enter the air in the project area. Since work would take place along the banks of the River and in the River, dust is predicted to be minimal since the adjacent waterway would have a dampening effect. Pollution from construction equipment would be minimal. Air quality would not be significantly adversely affected by the Proposed Action.

Ambient noise levels are typically very low in and around the proposed project area. A temporary increase in noise levels from the operation of heavy equipment and associated vehicles during construction is expected. This impact would be of short duration during construction only. Operation of these vehicles would be during normal working hours. Therefore, the Proposed Action alternative would have no significant affect on air quality and noise.

3.6 Aesthetics

During construction, heavy equipment would be present at the project site as well as the staging area. Equipment would be parked as unobtrusively as possible in order to reduce effects on aesthetics in the area. Once construction is complete, the boulder rip-rap would be under water under the normal low water mark so they would not be visible. Therefore, the Proposed Action would not significantly affect aesthetics.

3.7 Vegetation Communities

Within the vicinity of the 27th Street Bridge the following vegetation occurs along the banks of the river: mountain maple, Douglas fir, alder, river birch, scrub oak, narrowleaf cottonwood, mountain willow, coyote willow, Gamble oak, chokecherry and wax current (Olgeirson and Leisure, 1996). Other trees common to the area include Russian olive, green ash, and box elder. Shrubs common to the area include red osier dogwood, wild plum, hawthorn, bush honeysuckle, and rabbitbrush. Many herbaceous plants exist including chaenactis, salsify, yarrow, cow parsnip, clover, thelaspi, horsetail, foxtail, peavine, wild licorice, alfalfa, as well as sedges, and rushes. Grasses present include western wheatgrass, smooth brome, mannagrass, reedgrass, Colorado wild-rye, gooseberry, and meadow fescue.

Access for construction equipment would be along the west bank of the bridge and the River (see Figure 6). Staging of vehicles would occur further away from the bank of the River at an area designated by the local sponsor. This area would be a previously disturbed area that has been

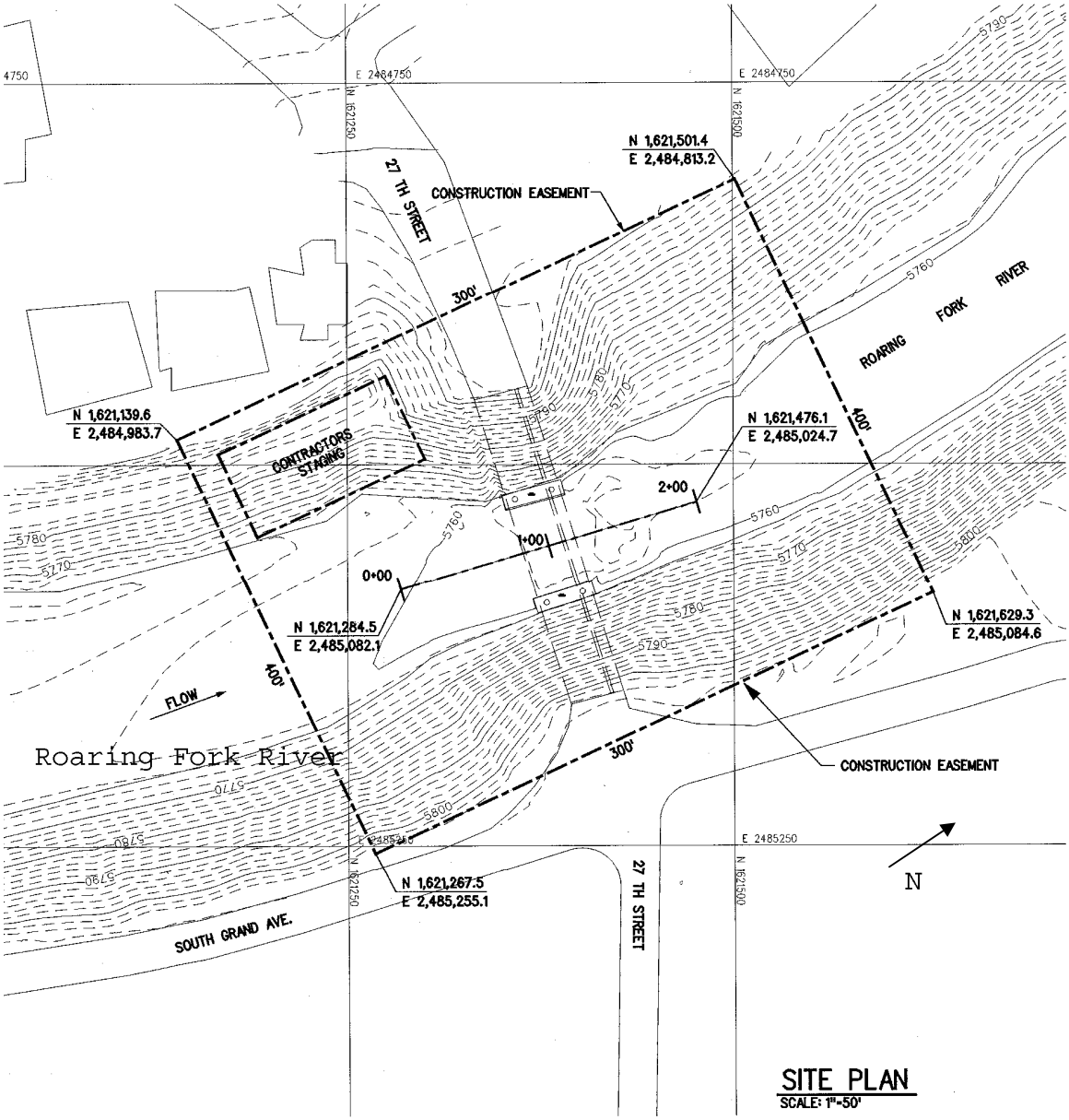

Figure 6. Access route for construction
(note: preferred location is northwest corner of bridge but contractor may need access along whole west bank),
27th Street Bridge Emergency Streambank Protection,
Glenwood Springs, Garfield County, Colorado

used for similar purposes in the past. Minimal vegetation would be disturbed in this area and reseeding would occur once the project is complete. Trees would be avoided if at all possible. If any tree is disturbed it would be replaced at a 3:1 ratio by species or as prescribed below. Potential species for seeding and revegetation adapted from the Native Plant Revegetation Guide for Colorado (1998) are provided in Table 2. These species, or others suggested, are to be agreed upon with the local sponsor.

Therefore, the Proposed Action would not significantly affect vegetation communities in the area.

Table 2. Proposed revegetation species

Common name	**Species name**	**Planting density**	**Type of installation**
Narrowleaf cottonwood	*Populus angustifolia*	3-5/acre	Pole or containerized stock
Pine species	*Pinus* species	3-5/acre	Containerized stock
Peachleaf willow	*Salix amygdaloides*	5-10/acre	Pole or containerized stock
Sandbar willow	*Salix exigua*	15-20/acre	Whips planted on bank edge
Box elder	*Acer negundo*	3-5/acre	Containerized stock
Great Plains false-willow	*Baccharis salicina*		Containerized stock
Netleaf hackberry	*Celtis reticulata*		Containerized stock
The remaining species would be included in a native seed mix with additional species and quantities to be determined at a later date:			
Western wheatgrass	*Pasopyron smithii*		Seed
Prairie cordgrass	*Spartina pectinata*		Seed
Switchgrass	*Panicum virgatum*		Seed

3.8 Flood plains, Wetlands and Waters of the U.S.

Executive Order 11988 (Flood plain Management) provides Federal guidance for activities within the flood plains of inland and coastal waters. Preservation of the natural values of flood plains is of critical importance to the nation and the State of Colorado. Federal agencies are required to "ensure that its planning programs and budget requests reflect consideration of flood hazards and flood plain management." Only access roads and construction areas will be located in the flood plain on a short-term basis during construction. These impacts would be minimal due to careful management of equipment in or near the waterway. Impacts to all access, staging and disturbed areas would be mitigated by replanting of vegetation as well as stabilization of the bank, which will aid in the overall goal of the project to protect the bridge piers.

As stated in a letter from the State of Colorado Water Conservation Board (Appendix C), the project is within a FEMA Special Flood Hazard Areas (SFHA). Therefore, a Floodplain Development Permit is required and would be obtained by the City of Glenwood Springs prior to construction. Therefore, the Proposed Action may minimally affect the flood plain, and only during construction on a short-term basis.

Executive Order 11990 (Protection of Wetlands) requires the avoidance, to the extent possible, of long- and short-term adverse impacts associated with the destruction, modification, or other disturbances of wetlands. There are no wetlands in the project area. Therefore, the Proposed Action would not impact wetland communities in the 27th Street Bridge area of the Roaring Fork River.

Section 404 of the Clean Water Act, (CWA; 33 U.S.C. 1251 *et seq.*) as amended, requires analysis of the EPA's 404 (b)(1) Guidelines if the Corps proposes to discharge fill material into a water or wetlands of the United States . The City of Glenwood Springs obtained a 404 permit from the Corps' Sacramento District Regulatory Branch (Appendix A1). This Nationwide permit is expires in April 2008. At the time that it expires, the City will apply for a new Nationwide permit. All stipulations in the permit would be adhered to during construction.

Section 401 of the CWA, (CWA: 33 U.S.C. 1251 *et seq.*) as amended, requires that a Water Quality Certification Permit be obtained for anticipated discharges associated with construction activities or other disturbance within waterways. The State of Colorado Department of Public Health and Environment Water Quality Control Division have statutory authority over issuance of the above-mentioned permit. By Colorado statute, authority to proceed under a Nationwide Permit for Section 404 of the CWA automatically permits the applicant under Section 401.

Section 402 of the CWA, (CWA; 33 U.S.C 1251 *et seq.*) as amended, specifies that storm-water discharges associated with construction activities shall be conducted under National Pollutant Discharge Elimination System (NPDES) guidance and is administered by the EPA. Construction activities associated with storm-water discharges regulated by NPDES include activities such as clearing, grading, and excavation, which result in a disturbance to one or more acres of land. These types of activities subject the underlying soils to erosion by storm-water. Therefore, a Storm Water Pollution Prevention Plan (SWPPP) is required and would be prepared for this project by the Corps Albuquerque District. A Notice of Intent would be filed with the State of Colorado 14 days prior to the start of construction and a Notice of Termination would be filed when all construction activities are completed. Generally, erosion impacts from storm-water are expected to be negligible, as soils at the site should sufficiently retain and hold storm water inputs throughout the project duration.

The documentation contained in Appendix A should be referenced for specific issues and questions relating to impacts upon water resources governed by these regulations (Sections 404 & 401 of the CWA). CWA and NEPA compliance processes were coordinated. All general and special conditions of both permits/certifications would be addressed in the final design plans and specifications for the proposed project. All CWA documentation will become part of the

permanent project record. The final permit documentation will be available for review through the Corps' Sacramento District Regulatory Office when completed.

The Corps and the local sponsor, in close coordination with any and all contractors, would be responsible for meeting the general and special conditions of the above permits and would use best management practices as described in Section 3.1, and avoidance by design, to prevent or minimize effects to water resources during and after construction. Corps Contracting Officers, or their representatives, would be required to monitor and inspect any contractor's compliance with project specifications regarding the conditions set forth under the CWA permits and best management practices employed to conform to those permit conditions.

3.9 Wildlife

There are numerous fish species in the watershed, which leads to the headwaters of the Colorado River including brook, brown, rainbow and Colorado River cutthroat trout, and mountain whitefish (Hempel and Crandall, 2001).

Amphibian species known to occur in Garfield County include bullfrog (exotic), Great Basin spadefoot, mountain toad, Northern leopard frog, tiger salamander, Western chorus frog, and Woodhouse's toad (NDIS, 2003). Reptiles known to occur in Garfield County include the Colorado side-blotched lizard, desert striped whipsnake, fence lizard, gopher snake, Great Plains rat snake, longnose leopard lizard, milk snake, night snake, Northern sagebrush lizard, Northern tree lizard, Northern whiptail, Plateau striped whiptail, racer, short-horned lizard, smooth green snake, Southwestern black-headed snake, wandering garter snake, and Western rattlesnake (NDIS, 2003).

Over 200 species of birds are known to occur in Garfield County (NDIS, 2003). Those likely to occur in or near the River include American Avocet, American Coot, American Kestrel, Ash-throated Flycatcher, American White Pelican, Bald Eagle, Belted Kingfisher, Bewrick's Wren, Black-crowned Night-Heron, Black-necked Stilt, Blue Grosbeak, Brown-headed Cowbird, Cassin's Kingbird, Cattle Egret, Clarks's Grebe, Cooper's Hawk, Cordilleran Flycatcher, Double-crested Cormorant, Dusky Flycatcher, Eastern Kingbird, Golden Eagle, Gray Flycatcher, Great Blue Heron, Green-tailed Towhee, Hammond's Flycatcher, Marsh Wren, Mallard, Northern Shoveler, Northern Waterthrush, Olive-sided Flycatcher, Osprey, Red-tailed Haw, Red-winged Blackbird, Ring-necked Duck, Sandhill Crane, Snowy Egret, Virginia Rail, Western Kingbird, White-faced Ibis, Willow Flycatcher, Wood Duck, and Yellow-billed Cuckoo.

The Bald Eagle is likely to potentially occur in the project area. The Bald Eagle is protected under the Bald and Golden Eagle Act as well as the Migratory Bird Treaty Act. It is listed by the Colorado Natural Heritage Program (CNHP) as State Critically Imperiled during the Breeding Season and State Vulnerable during the Non-Breeding Season. The Bald Eagle was originally listed as Endangered in 1967, down listed to Threatened in 1995 and removed from the Federal list in 2007. Currently there are 20 breeding pairs statewide (NDIS, 2003) though winter populations in Colorado have remained stable for the past 20 years. Loss of nesting habitat remains the biggest threat as well as high pesticide use, poisoning, and poaching.

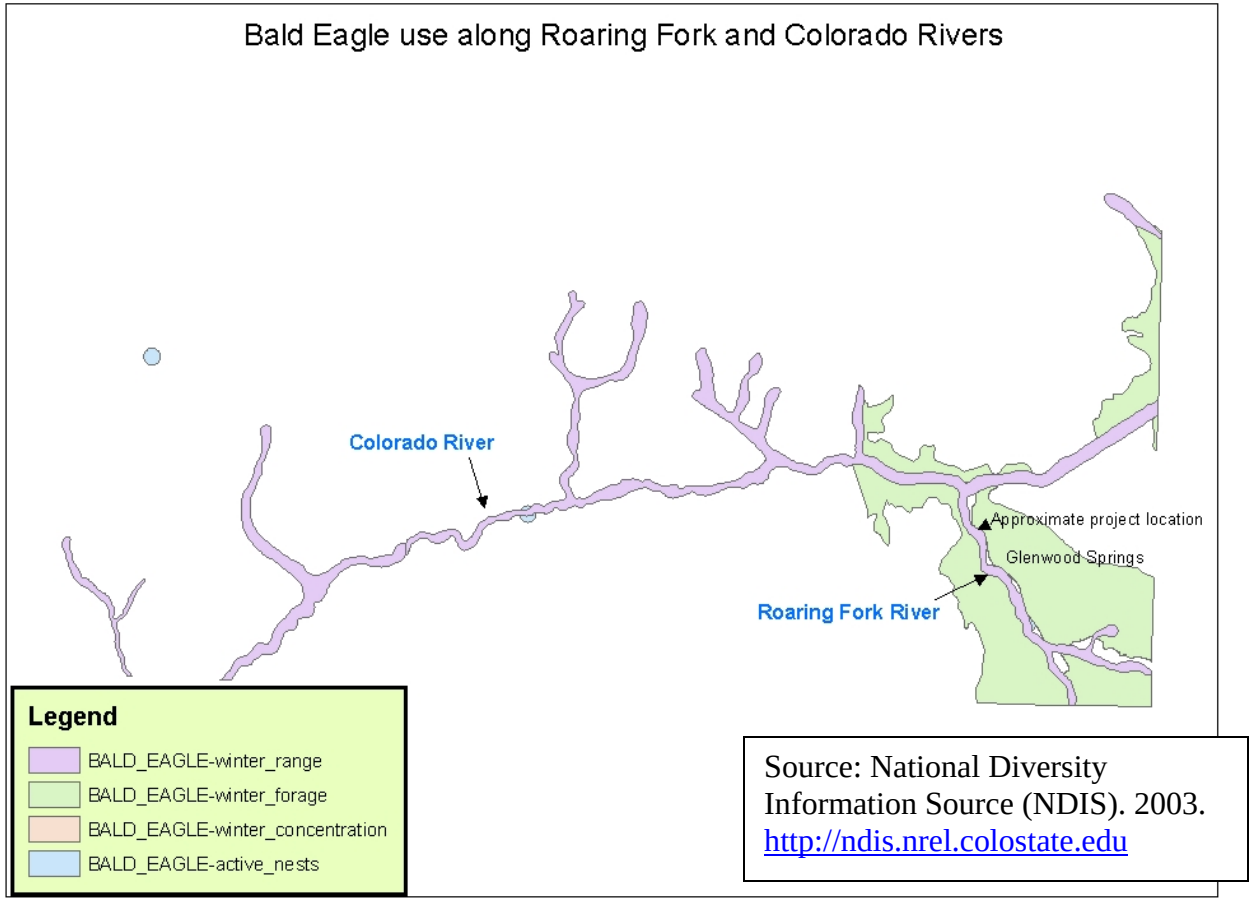

Figure 7. Bald Eagle use along the Roaring Fork and Colorado Rivers

Bald Eagles are frequently seen throughout the Roaring Fork Valley and return around the middle of November through late February or early March (Hoffman and O'Keefe, 2003). The birds mainly winter in the Roaring Fork Valley, fishing its open waters, although there have been no known occurrences of nesting (see Figure 7). For the most part, they travel north in the summer to breed. Avoiding or minimizing disturbance to the dominant native overstory trees, where present, would protect any potential perching or roosting sites.

To minimize the potential for disturbing Bald Eagles utilizing adjacent habitat, work would take place outside of the Bald Eagle high use months of December, January and early February. If a Bald Eagle is present within 0.25 mile of the project area in the morning before activity starts, or arrives during breaks in project activity, the contractor would be required to suspend all activity until the bird leaves of its own volition, or a Corps biologist, in consultation with the USFWS, determines that the potential for harassment is minimal. However, if an eagle arrives once activity is underway or one hour after legal sunrise, or if an eagle is beyond 0.25 mile of the site, activity would not be interrupted. Implementation of these measures would preserve undisturbed Bald Eagle use of foraging and perching habitat in the riparian area adjacent to the 27th Street Bridge if activity occurs while the bird is present.

Mammals common to the area that might occur near the River include American beaver, big brown bat, big free-tailed bat, black-tailed jackrabbit, Brazilian free-tailed bat, bushy-tailed woodrat, California myotis, common muskrat, common porcupine, coyote, deer mouse, desert cottontail, ermine, fringed myotis, golden-mantled ground squirrel, hoary bat, house mouse, kit fox, little brown myotis, long-tailed vole, long-tailed weasel, Northern river otter, pallid bat, plains pocket mouse, silver-haired bat, spotted bat, thirteen-lined ground squirrel, Western harvest mouse, water shrew, Western jumping mouse, Western small-footed myotis, white-tailed jackrabbit, and Yuma myotis (NDIS, 2003).

Numerous aquatic insects have also been identified in the watershed by the Colorado Natural Heritage Program such as caddisflies, stoneflies, mayflies, midges (Hempel and Crandall, 2001).

Many of these species may be present in the project area, so disturbance may be possible during construction. If present, most species would vacate the area and return upon completion of construction. Some of the smaller species such as insects, small lizards and amphibians and reptiles, as well as small mammals may be displaced due to the construction or even harmed. Efforts would be made to avoid holes in the ground or other areas that look like they may be homes to wildlife. Some insect species may be disrupted during construction and possibly harmed. Most insect larvae are deep in the mud below the gravel and sand layer of the river bed though some caddisfly cases may be present in the gravel layer that may be disturbed.

Diversion of the river during construction would occur on only one side of the river at a time. Passage of fish and other aquatic species would be allowed to occur during construction. Therefore, the Proposed Action may affect the existing wildlife community, but these impacts are anticipated to be minimal on a short-term basis during construction only.

3.10 **Endangered and Protected Species**

Two agencies who have primary responsibility for the conservation of animal and plant species in Colorado are the U.S. Fish and Wildlife Service (USFWS), under authority of the Endangered Species Act of 1973 (as amended) and the Colorado Division of Wildlife under the authority of the Wildlife Conservation Act of 1974. Each agency maintains a list of animal and/or plant species that have been classified or are candidates for classification as endangered or threatened based on present status and potential threat to future survival and recruitment. Information regarding species listed as State Imperiled for Garfield County was gained from the Colorado Natural Heritage Program web site (http://www.cnhp.colostate.edu/, 2003). Species on those respective lists are listed in
Table 3. Those with potential to occur in or near the project are discussed below.

Table 3: Federal and State of Colorado species of concern.

Species	*Federally listed*	*Federal Candidate*	*Listed as State Imperiled, Garfield County*
Mexican spotted owl (*Strix occidentalis*)	X		
Yellow-Billed Cuckoo (*Coccyzus americanus*)		X	
Boreal toad (*Bufo boreas boreas*)		X	X
Canada lynx (*Lynx Canadensis*)	X		X
Gunnison sage-grouse (*Centrocercus minimus*)		X	
Humpback chub (*Gila cyphai)*	X		
Bonytail Chub (*Gila elegans*)	X		
Colorado pikeminnow (*Ptychocheilus lucius*)	X		
Razorback sucker (*Xyrauchen texanus*)	X		X
DeBeque Phacelia (*Phacelia submutica*)		X	
Parachute beardtongue (*Penstemon debilis*)		X	X
Uinta Basin hookless cactus (*Sclerocactus glaucus*)	X		X
Great Basin spadefoot toad (*Spea intermontana*)			X
Boreal Owl (*Aegolius funereus*)			X
Sage Sparrow (*Amphispiza belli*)			X
Barrow's Goldeneye (*Bucephala islandica*)			X
Ferruginous Hawk (*Buteo regalis*)			X
Table 3 (cont'd)			
Sage Grouse (*Centrocercus*			X

urophasianus)			
Black Swift (*Cypseloides niger*)			X
Peregrine Falcon (*Falco peregrinus anatum*)			X
Sandhill Crane (*Grus candensis tabida*)			X
White-faced Ibis (*Plegadis chihi*)			X
Sharp-tailed Grouse (*Tympanuchus phasianellus columbianus*)			X
Gray Vireo (*Vireo vicinior*)			X
Roundtail chub (*Gila robusta*)			X
Colorado River cutthroat trout (*Oncorhynchus clarki pleuriticus*)			X
Townsend's big-eared bat (*Corynorhinus townsendii pallescens*)			X
White-tailed prairie dog (*Cynomys leucurus*)			X
Spotted bat (*Euderma maculatum*)			X
Wolverine (*Gulo gulo*)			X
Kit fox (*Vulpes macrotis*)			X
Yellow-dotted Alpine butterfly (*Erebia pawlowskii*)			X
Saffron-winged meadowhawk (*Sympetrum costiferum*)			X
Western yellow-bellied racer (*Coluber constrictor mormon*)			X
Western rattlesnake (*Crotalus viridis concolor*)			X
Great Plains rat snake (*Elaphe guttata*)			X
Longnose leopard lizard (*Gambelia wislizenii*)			X
Smooth green snake(*Liochlorophis vernalis*)			X
Tree lizard (*Urosaurus ornatus*)			X

This FR/EA is intended to meet the requirements of Section 7 of the Endangered Species Act. A determination of effect to federally listed species is included in the discussion for each species below.

Mexican Spotted Owl

The Mexican Spotted Owl was listed as a federally threatened species on 15 April 1993. A recovery plan for the species was released in December 1995. It is listed as both federally and state threatened as well as CNHP imperiled species. The following information is taken from the U.S. Fish and Wildlife Service web site: (http://mso.fws.gov/Distribution.cfm.

The Mexican Spotted Owl occurs from southern Utah and Colorado south through the mountains of Arizona, New Mexico, and west Texas into the mountains of central Mexico. Gaps remain in our knowledge of the distributional pattern of the Mexican spotted owl within this range, however. Information gaps exist in the United States. For example, several mountain ranges in west-central Arizona remain unsurveyed, and numerous canyon systems that may contain spotted owl habitat in southern Utah have not been surveyed for owls.

Despite these gaps, it is apparent that the Mexican Spotted Owl is widely but patchily distributed throughout its' range in the United States, with distribution reflecting the availability of forested mountains and canyons, and in some cases rocky canyonlands. Consequently, the owl's habitat within the Southwest is naturally fragmented (http://mso.fws.gov/Distribution.cfm, 2003).

In the recovery plan (USFWS, 2003), recovery units (RU) were established. The proposed project is within the Southern Rocky Mountain Physiographic Province. The Colorado-New Mexico state line delimits the southern boundary of this RU. The Mexico spotted owl reaches the northeastern limit of its range in the RU. The owls appear to occupy canyon habitat types containing widely scattered patches of mature Douglas-fir in or near canyon bottoms or high on the canyon walls. Mature Douglas-fir, white fir, and ponderosa pine dominate canyon bottoms and both north and east-facing slopes.

The species is likely to occur in Garfield County but not likely to occur in the project area. No individuals are known to occur at the project site. Therefore, the Mexican Spotted Owl would not be affected by the Proposed Action alternative.

Yellow-Billed Cuckoo

The Yellow-Billed Cuckoo (Cuckoo) is a candidate species for federal protection under the ESA. It has been shown to historically occur in Colorado. This species overwinters from northern South America south to northern Argentina. The Cuckoo is an uncommon summer resident in Colorado. Few sightings of the Cuckoo have occurred in western Colorado along the Colorado River near Grand Junction (USFWS, 2002), though no individuals have been sited in the project area. Therefore, it has been determined that the Yellow-Billed Cuckoo would not be affected by the Proposed Action alternative since the species is not known to be present in the project area.

Boreal Toad

The boreal toad is a candidate species for federal protection under the ESA and is State Endangered in Colorado. The species is known to occur in Garfield County (NDIS, 2003) but it is unknown if the species occurs in the project area. The toad typically lives in damp conditions in the vicinity of marshes, wet meadows, streams, beaver ponds, glacial kettle ponds, and lakes interspersed in subalpine forest (lodgepole pine, Englemann spruce, subalpine fir, and aspen) in southern part of the Rocky Mountains. The elevational range is mainly 8,500–11,500 feet. It is unlikely that it would occur in the project area that is at a lower elevation and vegetated with riparian vegetation. Therefore, there would be no affect to the boreal toad by the Proposed Action alternative.

Humpback chub
The humpback chub is currently listed as an endangered species with the USFWS. A recovery plan has been developed for the species and critical habitat has been designated. There have been no documented captures of the fish on the Roaring Fork River (USFWS, 2002), critical habitat has not been designated in the project area, and the species is not known to occur in the project area. Therefore, the humpback chub would not be affected by the Proposed Action alternative.

Bonytail chub
The bonytail chub is currently listed as an endangered species with the USFWS. A recovery plan has been developed for the species and critical habitat has been designated. There have been no documented captures of the fish on the Roaring Fork River (USFWS, 2002), critical habitat has not been designated in the project area, and the species is not known to occur in the project area. Therefore, the bonytail chub would not be affected by the Proposed Action alternative.

Colorado pikeminnow
The Colorado pikeminnow is currently listed as an endangered species with the USFWS. The Colorado pikeminnow is a torpedo-shaped fish with an olive-green and gold back, silver sides and a white belly (USFWS, 2003). There are currently found in the upper Colorado River basin outside of the project area, and no critical habitat has been designated in the project area (USFWS, 2002). Therefore, the Colorado pikeminnow would not be affected by the Proposed Action alternative.

Razorback sucker
The razorback sucker is listed as an endangered species by the USFWS. The razorback sucker was once widespread throughout most of the Colorado River Basin from Wyoming to Mexico. They are now found only in the upper Green River in Utah, the lower Yampa River in Colorado and occasionally in the Colorado River near Grand Junction (USFWS, 2003). There are currently none found in the upper Colorado River basin outside of the project area and no critical habitat has been designated in the project area (USFWS, 2002). Since they do not occur in the project area, the razorback sucker would not be affected by the Proposed Action alternative.

Uinta Basin hookless cactus
The Uinta Basin hookless cactus (cactus) is found in rocky hills, mesa slopes and alluvial benches in desert shrub communities. It is not likely to occur in the project area. Therefore, the cactus would not be affected by the Proposed Action alternative.

In conclusion, the Corps has determined that the proposed action will have no effect on any Federally listed species.

3.11 Cultural Resources

On November 7, 2002, a Corps archaeologist conducted a site visit to the project area. No intensive cultural resources inventory survey was conducted due to the fact that both river banks/bridge piers at the 27th Street (Sunlight) Bridge have been heavily disturbed by the placement of significant amounts of earthen fill materials and by the construction of the bridge footings during original bridge construction. Due to this original, significant disturbance, the archaeologist only visually inspected the project area rather than conducting an intensive, systematic survey. The proposed project area encompasses approximately 0.5 hectares (1.4 acres). The project's staging area is located a short distance to the south of the project area in a city-owned, previously disturbed lot that has been utilized for similar construction purposes in the past. Since this area has been also previously disturbed by construction activities, the staging area was not surveyed for cultural resources.

Generally, there have not been many cultural resource surveys conducted in the immediate vicinity of the Glenwood Springs project area. Area surveys that have been conducted are in support of State Highway Department construction and quarrying activities and those surveys that have been conducted by the U.S. Bureau of Land Management and U.S. Forest Service in support of mining and exploration, access roads, logging operations, and recreational activities. Archaeological work, culture history overviews and local histories include reports by Urquhart (1983), Nelson (1999), Mehls (1982), O'Rourke (1980), Nickens (1988), P. Smith (1990), A. Smith (1974), and D'Azevedo (1986).

On August 9, 2002, the Corps contacted the Colorado Historical Society for information regarding archaeological and historic properties that may be present in the Glenwood Springs project area. Several properties are reported to occur within Glenwood Springs such as the last resting place of the famous Doc Holliday of the OK Corral gunfight fame (5GF1260), the historic Linwood Cemetary (5GF1261), the historic Glenwood Ditch (5GF1457), the historic Denver and Rio Grande Western Railroad (grade; 5GF1661) and the Colorado Midland Railroad Grade (5GF1663) as well as the branch known as the Aspen and Western Railroad (5GF469), the historic Atkinson Canal (5GF1662), and the historic Sumers Lodge (5GF2363). Local survey work includes a historic properties inventory and linear surveys for utilities, pipelines, and electrical transmission lines such as those conducted by Patterson and Michael (1978), Crouch (1980), Kight (1990; 1988), Lischka (1991), Phillips and Hackett-Bambrey (1997), Chambellan and Mehls (1998), and Sladek (1999).

Within the project area, the historic Atkinson Canal (5GF1662) traverses, from south to north, along the west (left-hand) bank of the Roaring Fork River. The Atkinson Canal was originally given a ditch number of 79C and had water rights that dated from the 20th of December, 1884. Its diversion point (headgate) is located on the south (left-hand) bank of the Roaring Fork River about 1/4 mile upstream from the Cardiff Bridge crossing. The Atkinson Canal was built by Fred Atkinson who operated a limestone quarry and was manufacturing bricks. It is likely that at least some of the Atkinson Canal water was delivered for use at his "…second brick yard [that] was [located] at the base of Red Mountain…" (Urquhart 1983:40; Nelson 1999:62). The Canal also delivered irrigation water to what was known as the Wulfsohn Ranch (pers. comm. King

Lloyd, Assistant City Engineer, November 7, 2002). JuliusWulfsohn had purchased the "Cedarbank" mansion and associated property on the south bank of the Colorado River from Walter and Mary Devereux in 1910; the Wulfsohn (Cedarbank) Mansion had earlier been described as a castle (actually a three story brick structure) built by Captain E. E. Prey in about 1885, with Atkinson brick (Urquhart 1983:25 [photograph], 40-41, 67, 88 [photograph], 126, 146; Nelson 1999:62-63, 144, 194). Although the Prey/Devereux/Wulfsohn Mansion was destroyed in 1959 and the Atkinson Canal is no longer in use, the Atkinson Canal ditch remains and the City of Glenwood Springs has applied for funding to utilize its banks for a recreational walking trail (pers. comm. King Lloyd, Assistant City Engineer, November 7, 2002; Olgeirson and Leisure 1996).

The Atkinson Canal, as determined from the USGS Glenwood Springs 7.5 Minute Quadrangle map (39107-E3), is about 6,595 meters (about 4.1 miles, 21,638 feet) in length. When the 27th Street Bridge was originally constructed in about 1969, the west end of the bridge was constructed over the Atkinson Canal. For the proposed project, access to the Roaring Fork River channel is proposed from the southwest corner of the bridge; therefore, the access route would cross the Atkinson Canal. Currently, there is a short corrugated steel culvert in the Canal's ditch at this location; however, the existing small/short culvert may need to be replaced with a longer culvert or may be removed altogether. Crossing the ditch to access the river; however, would have a negligible effect to the historic Atkinson Canal.

Also near the project area, to the west, is where the old Colorado Midland Railroad Grade (5GF1663) was once located; however, in this area the old railroad grade has been converted to a city street, Midland Avenue. The Colorado Midland Railroad tracks were removed in 1919 (Nelson 1999:157). The proposed project would have no effect on the Colorado Midland Railroad Grade. There are no other known sites or properties within or immediately adjacent to the proposed construction area and no artifacts or other cultural resource manifestations were observed during the site visit. There are no known Traditional Cultural Properties in the project area.

Other than the Atkinson Canal, there are no known cultural resources located within the boundaries of the proposed construction area although intact archaeological deposits may be found almost anywhere in the region. Known sites in the region include Archaic, Formative, Protohistoric and Historic Era sites and range from surface lithic and ceramic scatters, temporary surface campsites, and sedentary campsites, to rock shelters. PaleoIndian sites may also occur in the area. Evidence from known sites indicates that human use of the region has been lengthy and includes mobile hunter/gatherer subsistence strategies to highly complex and specialized social groups.

The Corps is of the opinion that there would be "No Historic Properties Affected" by construction of the proposed project and the Colorado State Historic Preservation Officer has concurred with the Corps determination. Documentation of cultural resources consultation is attached in Appendix B.

3.12 Socioeconomic Considerations

Of the 1,134,173 acres in Garfield County, approximately 60% are federally owned lands – Bureau of Land Management, U. S. Forest Service and Bureau of Reclamation (Garfield County Quick Facts, 2003). Main industries include tourism, gas and coal mining, sheep and cattle ranching, and fruit and vegetable growing.

In the year 2000, there were 45,521 people in Garfield County (US Census Bureau, 2003). The ethnic distribution within the County is 90 percent Anglo, and the remainder split between black or African American, American Indian and Alaska Native persons, Asian persons, Hispanic, and Native Hawaiian. The main sources of employment are management, professional and related occupations; sales and office occupations; construction, extraction and maintenance occupations; and service occupations (US Census Bureau, 2000). For the year 2000, the median household income was $47,016 (US Census Bureau, 2000).

The Proposed Action alternative would not adversely affect the social or economic well being of the region and may potentially benefit by assuring that the main bridge crossing used in Glenwood Springs is maintained in a safe, useful condition for the Glenwood Springs community, industry and tourism.

3.13 Land Use and Recreational Resources

The predominant land use in the project area is light industrial to commercial. The City of Glenwood Springs surrounds the Roaring Fork River on either side of the 27th Street Bridge. Average daily traffic on the 27th Street Bridge is 10,000 vehicles per day (Garfield County, 2003). The project would increase the life of the bridge, which provides access to the major land uses in the project area. Therefore, the Proposed Action alternative would benefit land use in the area.

The Roaring Fork River is a cold water fisheries and used for sport fishing in the area. A proposed Roaring Fork River Trail would be constructed beginning at Sunlight Bridge and heading to the south. This trail would utilize the irrigation canal network associated with the utility road approximately 30 feet above the Roaring Fork River (Olgeirson and Leisure, 1996). The proposed trail alignment would not be impacted during construction. There would be temporary aesthetic effects, which would be viewed from the trail alignment, but these will be during construction only. Therefore, the Proposed Action alternative will not significantly affect recreational resources.

3.14 Hazardous, Toxic, and Radioactive Waste

Based on Corps photographs obtained during site visits, the Albuquerque District's Hazardous, Toxic, Radiological Waste (HTRW) Section does not believe there are any potential hazardous waste concerns at this site. No staining or discolored soil was reported by personnel who have visited the site. No samples for waste characterization were collected or would be required during construction. If suspicious odors, debris or soil staining are observed, or any hazardous or special wastes are encountered at the project during construction, operations shall be suspended until Albuquerque District HTRW personnel are notified and consulted for further action.

3.15 Environmental Justice

Executive Order 12898 (Environmental Justice) requires "to the greatest extent practicable and permitted by law, and consistent with the principles set forth in the report of the National Performance Review, each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low-income populations…"

The staging area would be adjacent to a commercial structure and would be sited by the local sponsor. The staging area has been identified to be a safe distance away from pedestrian and vehicular traffic and would be used on a short-term basis during construction only. BMPs would be used to ensure the least amount of impact to the staging area property. The project would not disrupt or displace any residential structures. The work has been reviewed for compliance with this order and it has been determined that the Proposed Action alternative would not adversely affect the health or environment of minority or low-income populations.

3.16 Noxious Weeds

The Federal Noxious Weed Act of 1974 (Public Law 93-269; U.S.C. 2801) provides for the control and eradication of noxious weeds and their regulation in interstate and foreign commerce. Executive Order 13112 directs Federal agencies to prevent the introduction of invasive (exotic) species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause. All equipment should be cleansed at the end of each day during the life of the proposed construction.

As stated above, all disturbed areas will be reseeded with native seed after construction. It will be the responsibility of the local sponsor to monitor the project area post-construction for invasions by weedy species.

3.17 Human Health and Safety

There will be no impact to human health by the Proposed Action but there may be moderate benefit to safety by the Proposed Action. The 27th Street bridge piers would be stabilized which would increase the life of the bridge under the Proposed Action alternative.

3.18 Cumulative Effects

The Corps does not foresee any adverse cumulative impacts upon the biological resources of the proposed project would be negligible. There are no foreseeable adverse indirect effects downstream on development of quality habitat as a consequence of the proposed project. Conversely, the proposed project would substantively benefit the community of the project area by stabilizing and thereby increasing the life of the bridge, avoiding future problems such as erosion and other forces that could negatively impact the Roaring Fork River, and sustaining the socioeconomic stability of the Glenwood Springs community. Currently, there are no known planned or future projects in the project area.

4.0 Preparation, Consultation, and Coordination

4.1 Preparers

Ondrea Hummel – Senior Biologist, Environmental Resources Section, Planning Branch
Gregory Everhart – Archaeologist, Environmental Resources Section, Planning Branch
Gary Rutherford – Project Manager, Planning Branch
Fermin Chavez – Civil Engineer, General Engineering Section, Engineering and Construction Division
Jud Lee – Hydraulic Engineer, Hydrology & Hydraulics Section, Planning Branch

4.2 Consultation and Coordination

Agencies and other entities contacted formally or informally in preparation of this FR/EA include:

City of Glenwood Springs
U.S. Fish and Wildlife Service
Colorado River District
Colorado State Historical Society
Northern Ute Tribe
Southern Ute Indian Tribe
Ute Mountain Ute Tribe

An example scoping letter and list of persons/agencies included in the scoping process is provided in Appendix A.

5.0 Recommendation

I recommend that this Feasibility Report/Environmental Assessment for the 27th Street Bridge Section 14 Emergency Streambank Protection Project in Glenwood Springs, Colorado, be approved for implementation. The project would protect an important public bridge now in imminent danger of damage or failure due to erosion, would have only minor environmental impacts, has been fully coordinated with Federal, State, tribal, and local governments, and would be in the public interest. Federal implementation of the recommended project would be subject to the non-Federal sponsor agreeing to comply with applicable Federal laws and policies, including but not limited to:

a. Provide a minimum of 35 percent, but not to exceed 50 percent, of total project costs as further specified below:

    1. Provide, during the design and implementation phase, a contribution of cash equal to 5 percent of total project costs;

    2. Provide all lands, easements, and rights-of-way, including those required for relocations, the borrowing of material, and the disposal of dredged or excavated

material; perform or ensure the performance of all relocations; and construct all improvements required on lands, easements, and rights-of-way to enable the disposal of dredged or excavated material all as determined by the Government to be required or to be necessary for the construction, operation, and maintenance of the project;

3. Provide, during the design and implementation phase, any additional funds necessary to make its total contribution equal to at least 35 percent of total project costs;

b. Provide, during the design and implementation phase, 100 percent of all costs of planning, design, and construction for the project that exceed $1,000,000;

c. Shall not use funds from other Federal programs, including any non-Federal contribution required as a matching share therefor, to meet any of the non-Federal obligations for the project unless the Federal agency providing the Federal portion of such funds verifies in writing that expenditure of such funds for such purpose is authorized by Federal law;

d. Comply with all applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, as amended (42 U.S.C. 4601-4655), and the Uniform Regulations contained in 49 Code of Federal Regulations (CFR) Part 24, in acquiring lands, easements, and rights-of-way required for construction, operation, and maintenance of the project, including those necessary for relocations, the borrowing of materials, or the disposal of dredged or excavated material; and inform all affected persons of applicable benefits, policies, and procedures in connection with said Act;

e. For so long as the project remains authorized, operate, maintain, repair, rehabilitate, and replace the project, or functional portions of the project, including any mitigation features, at no cost to the Federal Government, in a manner compatible with the project's authorized purposes and in accordance with applicable Federal and State laws and regulations and any specific directions prescribed by the Federal Government;

f. Give the Federal Government a right to enter, at reasonable times and in a reasonable manner, upon property that the non-Federal sponsor owns or controls for access to the project for the purpose of completing, inspecting, operating, maintaining, repairing, rehabilitating, or replacing the project;

g. Hold and save the United States free from all damages arising from the design, construction, operation, maintenance, repair, rehabilitation, and replacement of the project and any betterments, except for damages due to the fault or negligence of the United States or its contractors;

h. Keep and maintain books, records, documents, or other evidence pertaining to costs and expenses incurred pursuant to the project, for a minimum of 3 years after completion of the

accounting for which such books, records, documents, or other evidence are required, to the extent and in such detail as will properly reflect total project costs, and in accordance with the standards for financial management systems set forth in the Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments at 32 CFR Section 33.20;

i. Comply with all applicable Federal and State laws and regulations, including, but not limited to: Section 601 of the Civil Rights Act of 1964, Public Law 88-352 (42 U.S.C. 2000d) and Department of Defense Directive 5500.11 issued pursuant thereto; Army Regulation 600-7, entitled "Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army"; and all applicable Federal labor standards requirements including, but not limited to, 40 U.S.C. 3141- 3148 and 40 U.S.C. 3701 – 3708 (revising, codifying and enacting without substantial change the provisions of the Davis-Bacon Act (formerly 40 U.S.C. 276a *et seq.*), the Contract Work Hours and Safety Standards Act (formerly 40 U.S.C. 327 *et seq.*), and the Copeland Anti-Kickback Act (formerly 40 U.S.C. 276c *et seq.*);

j. Perform, or ensure performance of, any investigations for hazardous substances that are determined necessary to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Public Law 96-510, as amended (42 U.S.C. 9601-9675), that may exist in, on, or under lands, easements, or rights-of-way that the Federal Government determines to be required for construction, operation, and maintenance of the project. However, for lands that the Federal Government determines to be subject to the navigation servitude, only the Federal Government shall perform such investigations unless the Federal Government provides the non-Federal sponsor with prior specific written direction, in which case the non-Federal sponsor shall perform such investigations in accordance with such written direction;

k. Assume, as between the Federal Government and the non-Federal sponsor, complete financial responsibility for all necessary cleanup and response costs of any hazardous substances regulated under CERCLA that are located in, on, or under lands, easements, or rights-of-way that the Federal Government determines to be required for construction, operation, and maintenance of the project;

l. Agree, as between the Federal Government and the non-Federal sponsor, that the non-Federal sponsor shall be considered the operator of the project for the purpose of CERCLA liability, and to the maximum extent practicable, operate, maintain, repair, rehabilitate, and replace the project in a manner that will not cause liability to arise under CERCLA;

m. Provide, during the design and implementation phase, 35 percent of all costs that exceed $10,000 for data recovery activities associated with historic preservation for the project; and

n. Comply with Section 221 of Public Law 91-611, Flood Control Act of 1970, as amended (42 U.S.C. 1962d-5b), and Section 103(j) of the Water Resources Development Act of 1986, Public Law 99-662, as amended (33 U.S.C. 2213(j)), which provides that the Secretary of the Army shall not commence the construction of any water resources project or separable element thereof, until each non-Federal interest has entered into a written agreement to furnish its required cooperation for the project or separable element.

21 Apr 08

Date

B. A. Estok
Lieutenant Colonel, U.S. Army
District Commander

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APPENDIX A
BIOLOGICAL COORDINATION

1. CWA Coordination

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA 95814-2922

REPLY TO
ATTENTION OF

February 11, 2004

Regulatory Branch (200475040)

Mr. King Lloyd
City of Glenwood Springs
Engineering Department
101 West 8th Street
Glenwood Springs, Colorado 81601

Dear Mr. Lloyd:

We have reviewed your plan to place boulders and dredge material at the toe of two bridge abutments within the Roaring Fork River. The project site is located at the 27th Street bridge, in the City of Glenwood Springs, within the NE1/4 of Section 21, Township 6 South, Range 89 West, Garfield County, Colorado.

The Corps of Engineers, Sacramento District, has issued Regional General Permit Number GP37 to authorize certain limited discharges of dredged or fill material associated with streambank stabilization projects. We have determined that your project will not affect threatened or endangered species protected by the Endangered Species Act. Based on our review of the information submitted, your project is authorized by this regional permit subject to the additional special conditions below and the enclosed permit (special and general) conditions.

Additional Special Conditions:

1. This section of the Roaring Fork River is identified by the Colorado Division of Wildlife (the Division) as a "Gold Medal Water." As such, you should consult with the appropriate Division staff to limit sedimentation activities within this important spawning habitat.

Please be advised that your described work activities of; dredging the river channel to create a receiving void for large rip-rap material surrounding the two bridge abutments, the bank stockpiling of this dredge material and subsequent replacement of this dredge material to fill smaller voids around the rip-rap, will result in a more than minimal release/generation of sediment during spawning seasons. Direct and active sediment control, modification of dredging activities or careful timing of sediment releases are alternatives that should be considered to fulfill this special condition.

2. You shall provide this office with a compliance report, depicting the degree to which you are in full compliance with the terms and conditions of this permit, within 30 days of project completion. This report should clearly identify and document measures taken to assure all general and special condition adherence. This includes Condition number 3 for rip-rap and expected high flow velocities.

3. To document pre and post-project construction conditions, you shall submit pre and post-construction photos of the project site within 30 days after project completion.

4. You must send a signed letter of certification to the Corps of Engineers within 30 days after completion of your work (General Condition 1c). A copy of the certification statement is included for your use.

This authorization is valid until February 11, 2007. We have assigned number 200475040 to your project. Please refer to this number in any correspondence with this office. If your plan to work extends beyond February 11, 2007, you must contact this office to receive an extension. If you have any questions concerning this general permit, please contact Mr. Mark Gilfillan of this office at 970-243-1199, extension 15 or email mark.a.gilfillan@usace.army.mil.

Sincerely,

Ken Jacobson
Chief, Colorado/Gunnison Basin
Regulatory Office
400 Rood Avenue, Room 142
Grand Junction, Colorado 81501-2563

Enclosures

Copies Furnished:

Mr. Ron D. Velarde, Colorado Division of Wildlife, 711 Independent Avenue, Grand Junction, Colorado 81501
Mr. Mark Bean, Garfield County, 108 8th Street, Suite 201, Glenwood Springs, Colorado 81601

COMPLIANCE CERTIFICATION

Permit File Number: 200475040

Permit Type: Regional General permit number 37

Name of Permittee: Mr. King Lloyd
City of Glenwood Springs
Engineering Department
101 West 8th Street
Glenwood Springs, Colorado 81601

County Where Work was Performed: Garfield

Date of Issuance: February 11, 2004

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

Colorado/Gunnison Basin Regulatory Office
U.S. Army Corps of Engineers, Sacramento District
Wayne N. Aspinall Federal Building
400 Rood Avenue, Room 142
Grand Junction, Colorado 81501-2563

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with the terms and conditions of the permit your authorization may be suspended, modified, or revoked. If you have any questions about this certification, please contact the Corps of Engineers office in Grand Junction, telephone number (970) 243-1199.

* * * * * * * *

I hereby certify that the work authorized by the above-referenced permit, including all the required mitigation, was completed in accordance with the terms and conditions of the permit verification.

_____

Signature of Permittee Date

DEPARTMENT OF THE ARMY PERMIT

Permittee: General Public **Expiration Date:** April 1, 2008

Permit Number: **GP-037**, 200275190

Issuing Office: U.S. Army Engineer District, Sacramento
Corps of Engineers
1325 J Street
Sacramento, California 95814-2922

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below. **You must notify the Corps of Engineers, Sacramento District (in writing) and receive verification of approval from the Corps of Engineers, Sacramento District PRIOR to beginning work authorized by this permit. Notification and approval procedures are described in the public notice covering this permit.**

Project Description: This Regional General Permit authorizes certain discharges of dredged and fill material for stream bank and stream bed stabilization work as described below:

RIPRAP: Riprap is material placed along an eroding bank to armor it and reduce erosion. Riprap material must be durable angular rock or broken concrete free from large quantities of organic material and erodible material such as dirt and gravel. The size of broken concrete pieces shall not be smaller than 12 inches or larger than 48 inches in any dimension. Pre-cast concrete blocks may be used as riprap contingent upon case-by-case approval by the Corps of Engineers. Rounded river cobble or stone, used as riprap, is **not** acceptable as riprap and is **not** authorized under this permit. Properly anchored trees and logs may be used in combination with large rock riprap. Proper anchoring of trees and logs is especially important because floatable materials can dislodge and move with currents potentially causing downstream erosion and blockages. Rock-filled gabion baskets or cages may be approved under this permit in limited situations. Gabions are not generally effective in high velocity streams, streams with large bedloads, or streams where the water chemistry is deleterious to the gabion mesh.

The placement of riprap is authorized provided:

1. A single and complete bank riprapping activity is less than 1000 feet in length along a stream bank;

2. The riprapping is limited to an average of two cubic yards or less of material per running foot placed below the plane of the ordinary high water mark of the stream. This permit is intended for protecting existing bank lines and does **not** necessarily authorize total restoration of original bank lines;

3. The size of the riprap shall be large enough to withstand expected high flow velocities and turbulence to prevent the riprap from dislodging. If waste concrete pieces are used, all exposed rebar or other degradable substances shall be removed prior to placement. Concrete shall be broken into pieces prior to placement to prevent slabs from being carried away by high flows;

4. The maximum slope steepness for riprap installation should be one foot vertical for two feet horizontal. On a case by case basis, in the interest of secondarily creating better trout habitat with overhanging banks, the Corps of Engineers may approve riprap installation which exceeds the specified maximum slope steepness;

5. Use of a filter between the bank revetment and soil may be necessary to prevent the soil from moving through the revetment, to prevent the revetment from sinking into the soil, and/or to permit natural seepage from the stream bank, thus preventing build-up of excessive groundwater pressure. A filter may be composed of fabric, sand, gravel, or graded rock. If a filter is used, you should seek technical assistance to ensure that the filter will be properly matched with the riprap blanket and the soil;

6. The upstream and downstream ends of the riprap blanket should be keyed or tied into the bank to prevent stream currents from unravelling the riprap. All riprap should be terminated at or below the top of bank to avoid creating levees which restrict the floodplain; and

7. Establishing a vegetative cover on disturbed surfaces by seeding, transplanting, or other appropriate means is very important, highly recommended and may, in some instances, be required by the Corps of Engineers. Herbaceous and woody vegetation landward of the riprap and interspersed within the riprap will improve the stability of the bank protection.

DROP STRUCTURES: A drop structure is a group of rocks, boulders and/or logs placed in a stream to act as a very low level dam. Placement of a drop structure will raise the stream bed elevation, decrease the stream gradient immediately upstream, cause deposition upstream of the drop, dissipate stream energy, decrease current velocity, and reduce stream bank erosion while promoting stream bed stability.

The placement of drop structures is authorized provided:

1. Drop structures shall be constructed so that the maximum change (increase) in the ordinary low water surface elevation upstream of the drop does **not** exceed 2 feet above the ordinary low water surface elevation immediately downstream of the drop. The majority of drop structures employed in western Colorado would not need to exceed 2 feet in height above the pre-construction stream bottom elevation to promote stream bank and stream bed stability. There should be at least one area near the center of a drop structure where fish may pass over the structure with 18 inches or less of drop and an adequate acceleration pool;

2. Materials acceptable for drop structure construction include large boulders, large angular stone or rock, logs, or a combination of the preceding. **CAUTION**: Logs can be more susceptible to damage from high flows and may need more frequent maintenance;

3. Material size shall be large enough to withstand expected high flow velocities and associated turbulence;

4. Drop structures shall be constructed in an inverted "V" formation with the apex of the "V" directed upstream or at an angle to the current which will direct overtopping flows to the middle of the stream, and not against adjacent stream banks.

5. All drop structures shall be tied or keyed into the existing banks and protected by large rock anchored several feet into the bank. **NOTE**: Protecting the flanks of the structure is critical to prevent extensive damage from high flows;

6. Construction equipment should access the stream at the fewest possible locations immediately upstream of the proposed work site to minimize disturbance to the aquatic environment;

7. Construction or placement of rock for a drop structure should start at both banks and proceed toward the middle of the stream. A backhoe or front-end loader, preferably with an opposing "thumb" on the bucket to manipulate the rocks, is best for constructing drop structures. Rocks placed at the bank should not extend above the bankfull elevation of the stream;

8. Due to the varied widths of streams wherein a drop structure may be useful in stabilizing stream banks and stream beds, a specific limitation on the volume of discharged material is not being employed;

9. As a precaution to recreational boaters and rafters, a sign(s) should be placed upstream of a drop structure, or series of structures, to give ample warning of the structure's presence. The center portion of a drop should be lower to concentrate flows and facilitate boat passage. The structure should not impede or block boat passage; and

10. Typical drop structures may **not** be approved for certain stream types.

JETTIES: Jetties are structures placed along a stream bank to direct flow away from an eroding bank. Jetties may also be used to direct flow toward an instream sand/gravel bar or shoal to cause it to scour. Acceptable materials for jetties include large angular rock, large boulders, large concrete chunks without protruding rebar, and logs or trees alone or in combination with the preceding fill materials. Generally, jetties are **not** effective on curves having a radius of less than 200 feet and a single jetty is usually not sufficient. River cobble, sand, gravel and other similar erodible materials are **not** acceptable for jetties.

This permit authorizes jetties provided:

1. The maximum extension of any jetty into a waterway shall not exceed 25% of the channel width. Flows shall **not** be directed to erode the opposite bank of the waterway;

2. Jetties shall be spaced along the bank to prevent scouring or scalloping of the bank between the structures;

3. The angle of the jetty and the bankline should **not** be greater than 30 degrees. Most often, the angle should be only 15-20 degrees to avoid excessive maintenance requirements;

4. Jetties may be triangular or linear (single-wing) in shape. Single wing jetties may only be directed upstream. **CAUTION**: Single-wing jetties may be more susceptible to damage from high flows and require more frequent maintenance than triangular ones;

5. Construction materials must be of sufficient size to withstand expected high velocities and turbulence. Rounded river cobble and stone, and dirt fill are not suitable for jetties. If broken concrete pieces are utilized for construction, the concrete pieces shall not be smaller than 12 inches or larger than 48 inches in any dimension, and any protruding rebar or reinforcement material must be cut-off flush with the surface of the concrete;

6. Jetties must be securely anchored into the bank for several feet to protect against undercutting and circumvention of the structure by high flows;

7. Trees for jetty construction should not be obtained from a riparian or wetland source, if practicable (**see Special Condition No. 2**). Proper anchoring of trees and logs is especially important. If unravelled, these materials can cause serious downstream erosion damage; and

8. The length of stream bank, where jetties will be built, must not exceed 1000 feet as measured from the first to last jetty.

All work will be completed in accordance with the plan(s) approved by the Corps of Engineers, Sacramento District.

Project Location: "Waters of the United States" in western Colorado which are within the boundaries of the Sacramento District. The eastern boundary of the Sacramento District in Colorado is the Continental Divide.

PERMIT CONDITIONS:

Special Conditions:

1. Material may not be placed in any wetlands, or in any location or manner which will impair surface water flows into or out of any wetlands. Wetlands are areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, wet meadows, willow/alder thickets, and similar areas. Some of the typical plants found in wetlands are sedges, rushes, bulrushes, cattails, alders and willows.

2. Destruction of riparian or riverine vegetation, especially mature cottonwoods, shall be avoided to the maximum extent practicable. The permittee is cautioned that cottonwoods may be locally very important for bald eagles which are protected by the Endangered Species Act (refer to special condition number 5 below). When work authorized by this permit causes damage to riparian vegetation that is not directed covered by a permanent feature, these scarred areas shall be replanted with a mixture of native trees, shrubs, forbs and grasses. Seeding, sprigging, or other means of planting native woody and herbaceous plants is highly recommended and advantageous to further stabilize stream banks. For further information on planting, contact your local Natural Resources Conservation Service office or the Corps of Engineers.

3. This permit does not authorize discharges of dredged or fill material as associated with channelization, ditching, mechanized land clearing, cutting off meanders, or blocking off channels.

4. Activities associated with stream bed stabilization shall not block river systems used for navigation, including rafting and canoeing, or create a hazard to navigation in such streams. An activity may not cause more than a minimal adverse effect on navigation.

5. Any activity authorized under this permit shall not jeopardize the continued existence of a threatened or endangered species, or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which is likely to destroy or adversely modify the critical habitat of such species.

As appropriate, the Corps of Engineers will consult with the U.S. Fish and Wildlife Service on specific requests to perform work under this permit if the project may affect a threatened or endangered species, or critical habitat. For example, the following rivers in western Colorado are occupied habitat for several fish species protected by the ESA:

a. **Yampa River** from the Green River confluence to Hayden, Colorado at the confluence of Dry Creek;

b. **Green River** in the extreme northwestern corner of Colorado;

c. **White River** from the Utah state line to Meeker, Colorado at the State Highway 13 bridge;

d. **Colorado River** from the Utah state line to Rifle, Colorado at the State Highway 13 bridge;

e. **Gunnison River** from the Colorado River confluence to the Hartland Diversion Dam;

f. **Little Snake River** in Colorado west of Baggs, Wyoming;

g. **San Juan River** in the extreme southwestern corner of Colorado; and

h. **Lower 0.5 mile of all adjacent tributaries** of the above seven river reaches.

Consultation may conclude with the identification of conservation recommendations by the U.S. Fish and Wildlife Service in a non-jeopardy Biological Opinion. At the discretion of the Corps of Engineers, these recommendations will be incorporated into an approval. The Corps of Engineers, Sacramento District will enforce compliance with accepted recommendations. If the U.S. Fish and Wildlife Service renders a jeopardy Biological Opinion and its identified reasonable and prudent alternative(s) can not be implemented, the project will require an individual Department of the Army permit. Authorization of an activity under this permit does **not** authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. Fish and Wildlife Service, both lethal and non-lethal "takes" of protected species are in violation of the ESA.

6. Any dredged or fill material shall not consist of unsuitable material [e.g., trash, debris, waste metal products, bituminous concrete (asphalt), car bodies, etc.] and must be free from toxic pollutants in toxic amounts.

7. All instream work should generally be performed during low water periods and the use of heavy equipment in stream beds, especially in live or flowing water, should be minimized. However, brown trout, Salmo trutta, begin spawning activity as early as mid-September when the hydrograph is generally receding. Depending on the location of a project, care must be taken so that low flow work does not adversely impact natural recruitment of wild trout.

8. Any discharges of dredged or fill material shall not occur in close proximity of a public water supply intake, should not limit the ability of any existing diversion structure to appropriate water, and should not adversely impact a stream gaging station.

9. Activities occurring in a component of the National Wild and Scenic River system, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, is not authorized by this permit.

10. An activity may not impair reserved tribal rights including, but not limited to, reserved water rights and treaty fishing and hunting rights.

11. An activity may not substantially disrupt the movement of those species of aquatic life indigenous to a water body, including those species which normally migrate through the area.

12. An activity in breeding areas for migratory waterfowl must be avoided to the maximum extent practicable.

General Conditions:

1. Upon receiving approval to perform work under this permit, you will have **three years** to complete the work, unless specified otherwise in a Corps of Engineers verification letter. If more time is required, you must seek an extension of time from the Corps of Engineers. Your request for an extension of time should be submitted to the Corps of Engineers at least **45 days** prior to the 3-year completion date. Upon completion of the work, you will submit a **signed certification** to the Corps of Engineers that will include:

a. A statement that the authorized work was done in accordance with the Corps of Engineers authorization, including any general or specific conditions;

b. A statement that any required mitigation was done in accordance with the permit conditions; and,

c. The signature of the permittee certifying the completion of the work and mitigation.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain a transfer of this authorization from the Corps of Engineers to new owner.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. In Colorado, excluding Indian lands, the Regional General Permits are unconditionally certified by statue. On Indian lands, you must receive water quality certification from the U.S. Environmental Protection Agency, Region VIII, which may impose conditions in a certification.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity in accordance with:

(X) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal projects.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that a verification based upon this permit is not contrary to the public interest was made in reliance on the information that you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit, or a verification based upon this permit, at any time the circumstances warrant.

Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate.

c. Significant new information surfaces which this office did not consider before verifying that your project is authorized by this permit.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you comply with the terms and conditions of your permit and for the initiation of legal action where appropriate.

You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General Condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of our decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

Issued for and in behalf of Colonel Michael J. Conrad, Jr., District Engineer

s/ Carter

Brooks Carter
Chief, Intermountain Regulatory Section

3/26/03
Date

2. USFWS Coordination

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
764 Horizon Drive, Building B
Grand Junction, Colorado 81506-3946

IN REPLY REFER TO:
ES/CO:COE
MS 65412 GJ

January 15, 2004

Ondrea Hummel, Biologist
U.S. Army Corps of Engineers
Albuquerque District
4101 Jefferson Plaza Northeast
Albuquerque, New Mexico 87109-3435

Dear Ms. Hummel:

The U.S. Fish and Wildlife Service (Service) has received your December 15, 2003, correspondence requesting our concurrence for effects determinations to federally listed species. You have determined that the proposed 27th Street Bridge Section 14 Emergency Streambank Protection in Glenwood Springs, Colorado project "may affect, but is not likely to adversely affect" the bald eagle (*Haliaeetus leucocephalus*), and will have "no effect" to any other federally listed species. The Service concurs with your determinations based on information received in your draft environmental assessment (December 15, 2003).

Although the area already receives a large amount human activity, noise associated with construction activities may deter bald eagles from using the immediate area. Since the proposed project will be temporary and limited to a small area around the bridge abutments, the effect on bald eagles will be insignificant.

If the Service can be of further assistance, please contact John Kleopfer at the letterhead address or (970) 245-3920, extension 39.

Sincerely,

Allan R. Pfister
Western Colorado Supervisor

JKleopfer:COE27thStreetBridgeStreambankLtr.doc:011504

APPENDIX B
CULTURAL RESOURCES COORDINATION

DEPARTMENT OF THE ARMY
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS
4101 JEFFERSON PLAZA, NE
ALBUQUERQUE, NEW MEXICO 87109-3435
FAX (505) 342-3199

Reply to Attention of:

December 3, 2003

Planning, Project and Program Management Division
Planning Branch
Environmental Resources Section

Rec'd 12-16-2003
GDE

Ms. Georgianna Contiguglia
Colorado State Historic Preservation Officer
Colorado Historical Society
1300 Broadway
Denver, Colorado 80203

ATTN: Mr. Jim Green

Dear Ms. Contiguglia:

Pursuant to 36 CFR Part 800, the U.S. Army Corps of Engineers (Corps), Albuquerque District, is seeking your concurrence in our determination of "No Historic Properties Affected" for a proposed streambank protection project in Glenwood Springs, Garfield County, Colorado. The Corps, at the request of the City of Glenwood Springs, is planning an emergency streambank protection project under Section 14 of the Flood Control Act of 1946, as amended.

The proposed project would provide emergency streambank protection for the 27th Street (Sunlight) Bridge in Glenwood Springs where bridge stability is being threatened by a degrading river channel. The preferred alternative involves the placement of 2 to 4 foot sized rock around the footings to prevent continued scouring and rip-rap protection along both river banks.

On November 7, 2002, a Corps archaeologist conducted a site visit to the project area. No intensive cultural resources inventory survey was conducted because the project area that includes both river banks/bridge abutments has been heavily disturbed by original bridge construction. The proposed project area encompasses approximately 0.5 hectares (1.4 acres). Prior to the November 2002 survey, the Corps contacted the Colorado Historical Society regarding cultural resources that may occur in the area. No known archaeological sites or historic properties were reported to occur within or adjacent to the proposed project area other than a portion of the historic Atkinson Canal. The Canal passes under the west end of the bridge. The proposed

access to the steep-banked river channel crosses the Canal and would be from the area at the southwest corner of the bridge. Crossing the Canal, however, is considered to have a negligible effect to the ditch. At one time, the Colorado Midland Railroad grade/tracks were located immediately west of the project area; however, nothing remains of the railroad in this area that has been converted into a city street. There are no known Traditional Cultural Properties in the project area.

Information on the proposed project including project description, location and dimensions with map figures and photographs, is provided in the enclosed report entitled, **A Cultural Resources Inventory for the Proposed Section 14 Streambank Protection Project at the 27th Street Bridge, Glenwood Springs, Garfield County, Colorado (Report No. COE-2003-11).**

Based on the above information, the Corps is of the opinion that there would be "No Historic Properties Affected" by the proposed project. Pursuant to 36 CFR 800.11, should previously unknown artifacts or cultural features be discovered during construction, work would be stopped in the immediate vicinity of the discovery, a determination of significance made, and a mitigation plan formulated in consultation with your office and any Native American groups that may have concerns in the area.

If you have any questions or require additional information, please contact Gregory Everhart, Archaeologist, at (505) 342-3352 or John D. Schelberg, Ph.D., Archaeologist, at (505) 342-3359.

Sincerely,

Julie A. Hall
Chief, Environmental Resources Section

Date Dec. 9, 2003

I CONCUR
Georgianna Contiguglia
Colorado State Historic
Preservation Officer

Enclosures

SOUTHERN UTE INDIAN TRIBE

Rec'd 1-12-2004
GDE

December 22, 2003

Attn: Dana R. Hurst, Lieutenant Colonel
Depart. Of Army Corps of Engineers
4101 Jefferson Plaza, NE
Albuquerque, NM 87109

Subject: Garfield County, 27th Street Bridge

Dear Mr. Hurst:

I have reviewed your letters of December 9, 2003, and, at this time, believe there are no known impacts to areas of Native American Cultural sites that are sensitive to this Tribe in regards to the proposed emergency streambank protection. In the event of inadvertent discoveries of Native American sites, artifacts, of human remains, this Tribe would appreciate immediate notification of such findings.

Should you require additional comments or have any questions, feel free to contact me, at the number listed below, extension 2209.

Sincerely,

Neil B. Cloud

Neil B. Cloud
NAGPRA Coordinator

Cc: Howard D. Richards Sr., Chairman
Southern Ute Indian Tribe

P.O. Box 737 • Ignacio, CO 81137 • Phone: 970-563-0100

APPENDIX C
PUBLIC REVIEW COMMENTS

1. Scoping letter

March 3, 2003

Engineering and Construction Division
Environmental Resources Branch

Colorado Division of Wildlife
50633 Highway 6 and 24
Glenwood Springs, CO 81601

Dear :

The U.S. Army Corps of Engineers, Albuquerque District, is working with the City of Glenwood Springs on an Environmental Assessment (EA) for the bridge protection of the 27th Street Bridge pier s. See Exhibit 1 for the proposed location map.

The 27th Street Bridge is in Glenwood Springs, Garfield County, Colorado. The City has resurfaced the bridge due to failing of the deck. Scour investigation reports showed that the added weight from the new deck have made it a critical situation to abate future scour of the bridge piers. Therefore, the City has requested assistance from the U.S. Army Corps of Engineers under Section 14 for emergency shoreline protection. The Roaring Fork River flows under the 27th Street Bridge and future channel scour abatement is required at this time.

The project proposes to wire riprap the existing bridge piers in order to prevent further scour and undercutting. The Roaring Fork River would be blocked and channeled above the project and flows would be released from the channel below the work area. See Exhibit 2 for a preliminary drawing of the proposed construction.

Please send us a current list of state listed or proposed species that may occur in Garfield County, as well as any other comments or concerns you may have for the proposed project. Send your correspondence within 30 days from the date of this letter to:

Ms. Ondrea Hummel
U.S. Army Corps of Engineers, Albuquerque District
Environmental Resources Branch
4101 Jefferson Plaza, NE

Albuquerque, New Mexico 87109-3435

If you have any questions or need additional information, please contact Ms. Hummel at (505) 342-3375, or fax (505) 342-3668, or e-mail address Ondrea.C.Linderoth-Hummel@spa02.usace.army.mil. Thank you.

Sincerely,

Julie A. Hall
Chief, Environmental Resources Branch

Enclosures

Mailing list:

Ms. Patty Gelatt, U.S. Fish and Wildlife Service
Colorado Division of Wildlife
Steve Witte, Colorado Division of Water Resources
Michael Copp, City of Glenwood Springs
Ed Nielson, Natural Resources Conservation Service
U.S. Forest Service: Chris Hirsch, Keith Giezentanner, Andrea Holland-Sears
Bureau of Land Management
The Colorado River District
USGS - Water Resources Division, Western Slope Sub District
U.S. EPA, Region 8 Office
Larry Lang, Colorado Water Conservation Board

2. Public Comments

STATE OF COLORADO

Colorado Water Conservation Board

Department of Natural Resources
1313 Sherman Street, Room 721
Denver, Colorado 80203
Phone: (303) 866-3441
FAX: (303) 866-4474
www.cwcb.state.co.us

January 14, 2004

Julie A. Hall
U.S. Army Corps of Engineers
4101 Jefferson Plaza NE
Albuquerque, NM 87109-3435

I have reviewed the information provided in your letter dated December 15, 2003, regarding the proposed streambank protection project within the City of Glenwood Springs. The City of Glenwood Springs participates in the National Flood Insurance Program. Community Panel No. 080071 1434 C identifies the Special Flood Hazard Areas (SFHA) affected by the project.

The CWCB has no objections to the project from a floodplain standpoint. Although the project takes place in the Roaring Fork River floodplain, this construction is not expected to have any adverse impacts to any floodplains portrayed on FEMA maps or floodplains designated by the State of Colorado.

The project takes place within and SFHA, but no floodway is delineated for this reach. The applicant is reminded that ANY work performed in an SFHA requires the issuance of a Floodplain Development Permit (FDP). This may require certain conditions according to local ordinances. An FDP should be obtained from the City of Glenwood Springs prior to the beginning of construction.

Thank you for the opportunity to participate in this review. In order to speed up the process for these responses, please address all future correspondence to my attention. If you have any questions, feel free to call me at 303-866-4805.

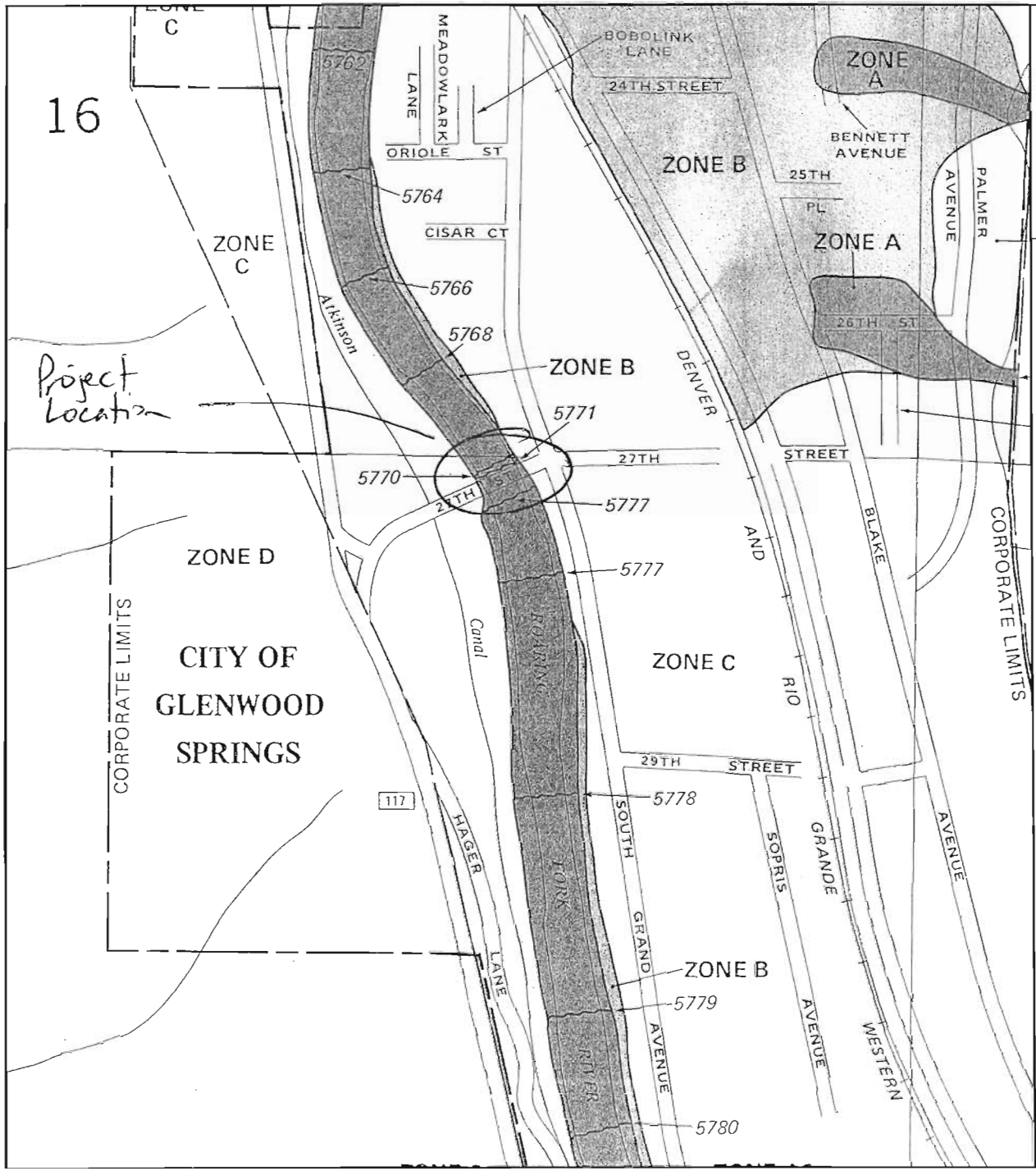
Sincerely,

Kevin J. Houck

Kevin Houck, P.E.
Community Assistance Program Coordinator

Cc: Larry Thompson City of Glenwood Springs

Attachment: City of Glenwood Springs, Flood Insurance Rate Map



APPENDIX D
REAL ESTATE PLAN

BRIEF REAL ESTATE PLANNING REPORT
27th Street Bridge
Glenwood Springs, Garfield County Colorado

1. AUTHORITY:

This planning report is under the authority of Section 14 of the Flood Control Act of 1946, as amended, 33 U.S.C. 701r.

2. PROJECT:

The 27th Street Bridge (also called Sunlight Bridge) is located in the City of Glenwood Springs, Colorado and crosses the Roaring Fork River

3. PROPOSED ACTION:

The purpose of the project is to stabilize the existing bridge piers in order to protect public property and use of this facility.

4. ACCESS:

Existing roads and rights-of-way would be utilized whenever possible and would provide access to the project area. Parking would be limited to construction corridor and all off-road driving would be kept to a minimum. All temporary structures, non-hazardous wastes, and/or excess materials would be removed from the project area upon completion of the project and be reused/recycled, if practicable, or disposed of at an approve landfill.

5. RELOCATIONS:

As per phone conversation that took place on 1/15/2008 with King Lloyd, Asst City Engineer with the City of Glenwood Springs. There will be no need for relocation for this project, because the City of Glenwood Springs owns all real estate or has acquired the necessary real estate interests required for this project.

PL 91-646 Relocation Assistance Benefits: The project is not displacing usable or habitable structures.

6. MINERAL ACTIVITY:

There is no known or anticipated mineral activity in the vicinity of the project.

7. HTRW:

No known hazardous waste material sites are affected by this project. If contamination is encountered during construction, work will cease in the vicinity of the contaminated area until the extent and type of contamination has been determined.

8. LANDOWNERS:

The non-Federal Sponsor (City of Glenwood Springs, Colorado) owns all real estate or has acquired the necessary real estate interests required for the proposed project.

9. ATTITUDE OF OWNERS AND NEIGHBORHOOD:

There is no known opposition to this project by other landowners in the vicinity.

10. Since this is a Section 14 project special LERRDs crediting rules apply:

ER 405-12,

12-38. Exceptions to LER Credit. As a matter of policy, a non-Federal sponsor will not be afforded credit for the following categories of LER required for a project. Further, for projects that include LER value as a part of shared total project costs, the value amount that is non-creditable must be excluded from total project costs. Requests for exceptions to this policy together with persuasive rationale must be forwarded through Division to HQUSACE (ATTN: CERE-AP) for coordination and final determination.

Section 14 Projects. The valuation of LER for crediting purposes for continuing authority projects constructed pursuant to Section 14 of the Flood Control Act of 1946, as amended, U.S.C. 701r, is the same as for other projects except for cases in which the required LER is part of the tract of land that includes the facility or structure being protected. In such cases, the non-Federal sponsor shall not receive credit for the value of LER it provides that:
(1) are parts of the tract of land on which the facility or structure to be protected is located; and (2) are owned by either the non-Federal-sponsor or the owner of the facility or structure when the PCA for the project is executed.

SUMMARY:

Because this project is fairly uncomplicated and the non-Federal-sponsor owns or has acquired the necessary real estate interests required to complete this project, real estates actions will be minimal at best. Maybe one trip to site, meetings, coordinates with the sponsor, and Real Estate Certificate of Sufficiency.

Non-Federal Sponsor: 27th Street Bridge, Glenwood Springs, Garfield County Colorado

1. Legal Authority:

   a. Does the sponsor have the legal authority to acquire and hold title project for for purposes? Yes

   b. Does the sponsor have the power of Eminent Domain for this project? No

   c. Does the sponsor have "quick take" authority for this project? No

   d. Are any of the lands/interests in land for the project located outside the sponsor's political boundary? No

   e. Are any of the lands/interests in land required for the project owned by an entity whose property the sponsor cannot condemn? No

II Human Resource Requirements:

   a. Will the sponsor's in-house staff require training to become familiar with the real estate requirements of Federal projects including P.L. 91-646, as amended? No

   b. If the answer to II a. is "yes", has a reasonable plan been developed to provide such training? N/A

   c. Does the sponsor's in-house staff have sufficient real estate acquisition experience? to meet its responsibility for the project? N/A

   d. Is the sponsor's projected in-house staffing level sufficient considering its other workload, if any, and the project schedule? N/A

   e. Can the sponsor obtain contractor support, if required, in a timely fashion? Yes

   f. Will the sponsor likely request USACE assistance in acquiring real estate? Yes

III Other Project Variables:

   a. Will the sponsor's staff be located within reasonable proximate to the project site? Yes

   b. Has the sponsor approved the project/real estate schedule/milestones? N/A

IV. Overall Assessment:

   a. Has the sponsor performed satisfactorily on other USACE projects? Yes

   b. With regard to this project, the sponsor is anticipated to be highly capable. Yes

V. Coordination:

a. Has the assessment been coordinated with the sponsor? Yes

b. Does the sponsor concur with this assessment? Yes

Prepared by:

Marvin Urban,
Realty Specialist

Reviewed and approved by:

John M. Baker
Chief, Real Estate Division